The Builder.

No. CCCCLXII.

SATURDAY, DECEMBER 13, 1851.

OUR recent article, commencing "Autumn usually brings other falls besides the fall of the leaf," has been called by some "prophetic," but, like many other *prophecies*, was grounded simply on the belief that like proceedings would bring like results. Certain it is, however, that no sooner was it published than the terminating cornice and parapet of four houses, and part of a fifth, in the Gloucester-road, Kensington, fell (causing the death of one workman and injury to others), and that, before the inquiry into the cause of this was completed, namely, on Sunday morning last, one of the houses now building in New Cannon-street, City, fell to the ground, but, happily without injuring any person.

The cause of the last occurrence is not yet known with certainty, but should be rigorously inquired into for the sake of the future. The frontage of the house is about 40 feet, the depth not more than nine feet at one end, next Bush-lane, and 14 feet at the other. The front wall, which has fallen, bringing away with it the whole of the interior, but leaving the roof marvellously suspended, was carried on cast-iron girders with a brick pier in the centre, and we must suppose, pending investigation, that one of the girders, which had a bearing of 20 feet, broke. The wall was 18 inches thick part of the way up, and 14 inches thick the remainder. The roof, curbed in front, is kept up by the back and side walls. The side wall next Bush-lane was canted to admit a door in the angle: the part of this wall which remains, with its overhanging cornice, looks very dangerous, by the way, and should be further supported.

The back wall being an old one, the joists were laid on plates spiked to it, and probably afforded little tie to the front wall. The accident happened at a time when everything was perfectly still (Sunday morning), when there was not even a vehicle in the road to cause a vibration: had it occurred when the men were at work on the floors, the plasterers on the front, and the street filled with people (as was likely), the consequences might have been dreadful. The size and construction of the girders we have not been able to obtain; and comment at this moment would be useless. It is due to the builders and owners of the premises (the Messrs. Lawrence and Sons) to say that the work appears to have been done in the best manner. We did not hear that any architect had been employed.

Before leaving New Cannon-street we must express our discontent with the dowdy common-place character of most of the buildings that have yet been erected in it: we fear the city architect has not had sufficient control. It will be an important thoroughfare, and should have exhibited some little art and beauty. It would have been better, by the way, if the house at the east corner of Queen-street had been kept back, as it now projects somewhat awkwardly before the general line of fronts. The granite statute of King William IV. terminates the east end of the street effectively.

The investigation into the cause of the accident in Gloucester-road was concluded on the 8th, before Mr. Wakley, M.P. the coroner. In the course of the evidence which was given,—

Dennis Hurley, foreman of the plasterers, deposed that he had himself made complaints as to the state of the work, more especially of the parapets and cornice. He perceived that they were being built in mortar, and he called Mr. Bean's (the architect's) attention to the circumstance, and told him that it was dangerous. In consequence of that representation the work was pulled down, and it was built up again in what was called "cement." In witness's opinion it was not cement, and when he saw it he poked it to pieces with his finger, and said to the men employed, "Do you call this cement? why you might as well use the M'Adam stuff off the roads." As to the cause of this accident, he said, under the cornice there were five or six courses of bricks. Those courses ought by rights to have been carried up in good cement and good Thames sand, instead of which they were carried up in mortar. If they had been carried up in cement, the accident would never have happened. When those courses were carried up, the stonework ought to have been bedded in cement and grouted in, but, instead of that, some of the stones were put in dry.

Mr. Bean, the architect, deposed that he had not the control of the materials that he ought to have had. He had complained to Mr. Inderwick, both personally and by letter, on several occasions, that he had not sufficient control over the works or the workmen, and that Thames sand ought to have been used in the cement. The loam that was employed in the mortar completely destroyed the binding properties of the lime, and it would be just as well to put up a stack of dry bricks as bricks with mortar composed in that manner.

Daniel Edwards, the bricklayer who executed the brickwork, did not like the nature of the material he had been compelled to use, and he had complained of it several times to Mr. Bean, but it was not his business—he had not to supply the materials.

Mr. T. Peacock, an architect (who had been instructed by the coroner to view the premises, and to report upon them), deposed that he had made such an inspection of the buildings as enabled him to give the jury an account of the cause of the accident. In the first place, he considered that the cornice was too heavy for the building, the retaining portion not being sufficient to counteract the preponderating weight of the overhanging portion. The brickwork under the cornice was not at all such as should have been used. Neither the grit nor the material used for mixing the cement was such as it should have been.

Mr. Donaldson, the district surveyor, said, in such capacity I have frequently inspected the works in question when they were in progress. In such a case as this I have very little power of interference. In fact, the Act merely requires that projections such as these shall be of incombustible materials. As far as I can, I endeavour to persuade builders to take every precaution, but that is all the power I have. When I have been at the works, complaints have never been made to me by the men that improper materials were used; but I have occasionally—frequently—complained of the quality of the earth mixed up to make the mortar, and I have often noticed that Mr. Inderwick had not competent men on the premises to superintend the works. I think that the weight of the "tailing" ought to have been more considerable, and having heard that parties walked along the cornice, I have no hesitation in saying that that would destroy the cohesion of the brickwork with the stonework. The clerk of the works is the person to see the works properly carried out. In the absence of any clerk of the works, I do not think that the architect is the person responsible.

The Coroner, in summing up, said,—It was very difficult in these cases to determine where the actual responsibility rested. By the agreement * Mr. Inderwick appeared to have transferred every legal responsibility to Mr. Bean. That gentleman had supreme power over the works. It might be said that he had not power over the materials, but yet, inasmuch as he had power to stop the progress of the works at any moment, he had indirectly power over them. In these circumstances was Mr. Bean lax in the discharge of his duty? It appeared that he had complained to Mr. Inderwick, but that he had not complained in such authoritative terms as to attract his full attention to the danger that would ensue if his warning were neglected. He did not think that this was a case which required the jury to fix any criminal negligence upon any party concerned, but he thought it was due to the safety of the public that they should name in their verdict the party or parties to whose act this unfortunate accident might be traced.

The Jury then retired, and after a lengthened absence returned with the following special verdict:—"We find that Robert Woolen was accidentally killed by the falling of the cornice of the parapet of certain houses, the property of Mr. John Inderwick, situated in Gloucester-road, Kensington, upon the 29th of November, 1851; and we further find that the cause of the accident was by reason of the bad materials furnished by Mr. Inderwick. We also find that Mr. Bean, the surveyor, was to blame for having permitted the works to proceed under such circumstances."

It is all very well to say that the architect should not have permitted such materials to be used: but what authority could he exercise over his employer? Leaving the evidence, however, to speak for itself, let us look a little farther. How was the core for this cornice formed? On four courses of 14 inches work (4½ inches of which projected beyond the wall beneath) was placed a layer of Yorkshire paving, 2 feet 8 inches wide,—1 foot 1½ inch on the brickwork, and 1 foot 6½ inches projecting beyond. Upon this was formed a parapet, consisting of a 9-inches plinth, 18 inches high, open panels filled in with cast cement-work, 2 feet 2 inches high, with brick piers between, and a cement coping. It was supposed to be built in cement, and it had some iron hooping in the plinth. The whole projection of the cornice was 2 feet 3 inches; and the parapet had to counterbalance this leverage. Had all the circumstances been favourable,—the weather good, the work well done, and kept unshaken, it would doubtless have stood (the cornice of the opposite houses, precisely similar, *had* stood); but what was the fact? the brickwork on which the stones were laid (*the fulcrum against which the lever was acting*) was in mortar and badly executed; the *cement* with which the parapet was put together crumbled into dust between our two fingers; the whole had been shaken, and the fall was inevitable.

The daily papers said that the stone core had broken short off close to the wall: this however was an error.

Without wishing to throw any further blame on the young architect under whose direction the work was being done,—referring, indeed, rather to the mode everywhere pursued than to any special case,—we must insist on the necessity for such a construction of these external cornices as shall render their safety something more than possible. This is not the first, second, or third time, within a very short period, that life has been destroyed by their failure; and our readers will especially remember the melancholy accident in Lupus-street, Pimlico, in September last, commented on by us at the time,* in an article which was reprinted all over the kingdom by our contemporaries, who are ever ready, we say it with gratitude, to give far-reaching wings to our advice and suggestions. The stone should *tail in at least* to the extent of its projection, and no force should be set up which has a tendency to strain and distort the work. Most of the mechanical defects of buildings result from inattention to the laws of gravity.

* "I agree to prepare plans and specifications, &c. and to superintend the erection of the houses in Gloucester-square, for 15*l.* per house."

* See p. 619, *ante*.

ARCHITECTURUS TO HIS SON.

THE LAMP OF SCIENCE.*

If I describe the science of the architect as that which forms the great power of the civil engineer, this will convey to your mind my meaning so far by illustration. It consists of the two departments,—firstly, the philosophy of natural structure of materials involved in building; and s condly, the phil sophy of the constructive principles of building. There is included by implication in each of these departments, as part of the idea of the question of building, the philosophy of the operations of nature in connection with building. "Construction," says Mr. Donaldson in his "Maxims," "has for its laws the principles which govern matter; for materials, the productions of the vegetable and mineral worlds; and for its end resistance to weight, a successful struggle with the elements, and victory over decay."

It would take a volume rather than a page to exhibit these philosophies of which I speak. There is no lack of treatises on all their details: my purpose is but to indicate the position of the subject among the objects of the architect's attainment, and to force upon your attention the folly of its neglect.

The practical architect, then, ought, in the first place, to be well versed in the knowledge of building materials, as regards their natur l structure and mere application; and not onl , mark me, in their *knowledge*, but in their *philosophy*,—in that knowledge systematised as a science. But I must disclaim the position with which an enthusiast might complicate the question—that such philosophy is equal to the comprehension of all that is to be learnt in mineralogy, vegetable physiology, geology, chemistry, and the like. These sciences are every one of far wider range than merely as they bear upon building; and it is only as they bear upon building that the architect requires their knowledge, as the master of the builder. But so far he ought to know them thoroughly.

Being thus possessed of the knowledge of the properties and applications of the several materials in his hands, he must, in the second place, understand the science of the uses and employments in detail of these materials,—that is to say, the requirements of building, and the mechanical means of meeting those requirements with the materials in hand. I might say, if I were humorous, that there are three ways of meeting those requirements. A late eminent statesman, as all the world has heard, had a habit of stating that there were three courses open to him; and in our own subject, an eminent professor takes pleasure in elucidating a triplicity in the essence of things —three gradations of proportion, three gradations of strength, three primitive colours, three degrees of comparison, three positions of time, three elements of the crust of the earth, three orders of architecture, and (no doubt he would say) three lamps likewise of architecture, where Mr. Ruskin and your old father see seven. So be it, then, and there are also three ways of meeting the requirements of building with the materials at command; first, by over-building; secondly, by under-building; thirdly, by well-building: first, with excessive substance; secondly, with insufficient substance; and thirdly, with exactly adjusted substance. I need not say, that of these the third must be the architect's aim. The first is waste or unwieldiness, the second ruin inevitable, and the third science. To calculate absolute equilibrium is the perfection of science in theory: to build with sufficient excess, and no more, to ensure permanent stability, is the perfection of science in practice—that upon which the third lamp shines.

I need not be careful in discriminating between science and building, as if I were writing a treatise on these subjects; and a great deal of what passes through my mind as I write I therefore do not record, but leave to pass through yours as you read. But it may be well to hold what I call science to comprehend only the philosophy of the mechanics of structure, and to include under the head of building all other matters of knowledge of the builder's work. And this, perhaps, I ought to have said before.

The materials of mechanical construction hitherto have been stone (or brick) and timber, to which a third is now of late added—iron. The works of the ancient times, those of the mediæval ages, and those of the modern period and our own day, are familiar to you, and their scientific merits and demerits have often been canvassed in theory, so that the general principles of science in the abstract are by no means unknown; besides which there has been within the last century such great advance attained in the experimental and scientific investigation of all such subjects, and so many elaborate and explicit treatises have been issued from the press of this and other countries; and, moreover, in the works of our engineers there has been displayed so close a comprehension of scientific perfection, and such ingenious precalculations and satisfactory results; that the cause of the well-known deficiencies of the architects of our day is only matter of wonder. Certainly while there exists, and in such universal estimation, another profession, whose attention is specially absorbed in the execution of great scientific constructions, it is scarcely matter of surprise that architects, having only to do with smaller works, and having their attention, moreover, specially distracted in the complicated nature of their calling, should fail to maintain, and indeed, fall very far behind, the standard of the engineer's skill in the abstract; but surely there can be no reason why the architect should not, in his own comparatively simple province, at least maintain creditably the standard of his profession in other times. But I believe it is the fact that, with a very few exceptions, men of our profession are scarcely at all, even in theory, acquainted with the principles on which, for instance, the Freemasons equipoised their system of arcuation, while in practice there is almost nothing of these principles carried into effect—perhaps never a single calculation made further than by reference to such a thing as a book of precedents, the Building Act, or the requirements of a body of commissioners. So long as Tredgold is on the bookshelf, or even Peter Nicholson, we need never be at a loss for such a matter as the scantlings of a girder, or of a roof-principal of standard truss and span, or of even a cast-iron beam or a story post; but this manner of overcoming difficulties will not suffice much longer. We must again acquire the power of precalculating for the occasion, whether for stone arch, pier, abutment, pinnacle, or buttress, for timber trussing of whatever complexity or peculiarity, for iron, cast in pillar, beam, rafter, strut, or rib, or wrought in tie or suspension rod, and for brick even in the common wall, pier, aperture, or arch. Some of the architects of the dark ages, no better than friars, could estimate and adjust, and did do so, as we every day can see, with a precision amounting to mathematical certainty, the most complicated questions of elaborated counterpoise, raising up structures of magnitude and complexity yet astonishing, with materials little better than the paving stones of the French barricades, almost realising Mr. Donaldson's maxim of the "ablest constructor" who upholds, upon the smallest amount of surfaces of support, the greatest weight, with strength uniting economy, till we almost fancy it is but a painted vision that is before us—the picture of some dream of magic grottoes woven in wickerwork. Too nicely, indeed, had their adjustment been sometimes done, where crumbling ruins are now all that remain of beautiful building — traceried window, sculptured foliage, and fan-vault like the forest sky. And why cannot we, of this enlightened time, sitting in purple and fine linen in libraries over-loaded with dissertations, precedents, experiments, statistics, data, formulæ and tables, encyclopædias, and indices, do as did those poor men of sackcloth and mortification, spelling with difficulty through their little store of scanty gleanings from an untilled field? Ah! my son, those men, I dare say, learned in a severer school than ours, and burned the midnight oil in patient study, while cigar divans and latch-keys were as yet unheard of.

While I cannot agree with those who demand that the civil engineer shall acknowledge himself a usurper, and give up his territory to the architect as its rightful ruler, believing as I do that this bisection of an ancient unity is but a profitable application of the principle of the division of labour—profitable both to the interest of the community and to the real interest of architecture; yet there is one matter which seems now to be acknowledged as the concern of the engineer, of which I should be disposed to dispute with him the possession as a question of right,—and that matter is the bridge. In the different varieties of the bridge we have unquestionably an excellent series of subjects for architectural effect of the highest order and most piquant degree. I incline to the opinion, moreover, that the architectural treatment of the bridge is a thing which has never yet been fairly attempted—whether it be the stone arch, the iron rib, or the suspended way,—not to speak of the tubular wonders of our own period, which seem to bear more of the appearance of the coffin of some such thing as a sea serpent, than of that artistic effect of which their construction is perfectly capable. Why I claim the bridge for the architect is, that I assume the impossibility of the engineer ever becoming an artist, seeing that, with perhaps at present this single exception, there is nothing in his province which is a subject for art. And therefore, unless there be an amount of mechanical difficulty which is beyond the reach of the architect, this particular subject would be better handled by him. And instead of the subject involving extraordinary difficulty, I think the case is the reverse—that the philosophy of the bridge is rather simple. If in the case of the new bridge of Westminster the system of public competition should be resorted to (a system as profitable in works of great public importance as it is pernicious in its present extension to every trumpery nicknack in a country village), then I hope the architects of England will come forward in strength and determination, to match the engineers in simple skill, and drive them from the field on the question of the beautiful—that without which, within its own wide sphere, man's work is unworthy of him.

I have little more to say on science, but that we must not forget those knowledges which refer to the operations of nature on construction, from the philosophy of the foundation on which it is to stand to that of the action of the elements in the work of decay. This department completes the question of Science; and what else I have to say on practical matters must be attended to under the question of building.

I have spoken of Art as a prodigiously noble thing: I speak now of Science as very noble too. There are pretended men of science whom I despise,—talkative, fussy, and conceited men, whose shallow waters are in perpetual boil, while the deep stream runs silently and slow. Empirics, too, I hold beneath contempt,—blind leaders of the blind,—much more pernicious than profitable. But the clear-headed, calculating man, who can grasp nature's agencies like arrows, and direct them with unerring aim—who can deduce and demonstrate, discover and detect, by system and rule—who can direct me from the end to the beginning, from the beginning to the end,—such a man is an enchanter, a prophet, a worker of miracles. When Le Verrier wrote to his friend to look towards such a spot in the stupendous heaven at such a time, and see an unseen planet rolling by—"I have not seen it," says he, "but it will be there"—what do you call such a man? When in his silent study, while plodding traders crept by along the street absorbed in francs, and gilded butterflies were fluttering on the promenade absorbed in finery, this lonely man, with pen and paper, was absorbed in such a thing as this,—what would your traders and your butterflies have thought of him? But he has done,—the last figure finishes his work,—and makes his name immortal: he has weighed that unseen planet in scales,—he has measured

* See p. 764, *ante*.

with a mighty chain the myriads of leagues of its tremendous orbit! He does not hesitate,—he trembles, it may be, as thus the key of the unknown abyss is placed in his small hand to open,—but he does not hesitate—there is no uncertainty—the act is accomplished. This is Science. K.

ON THE INFLUENCE OF CUSTOM, TASTE, AND MATERIALS ON PRACTICE, AND HOW INNOVATIONS FROM SUCH SOURCES SHOULD BE MET.*

THE spirit of movement and change, the desire never to rest satisfied with things as they are, the restless efforts to gain, to grasp, to gather together and use, which mark the mind of man—pervade especially, along with those other matters that engross his attention, that art from which he derives so much to delight his eye, and which adds so much to his comfort—*Architecture*; and that because it is, more than any other fine art, so intimately mixed up with his wants and daily life. * *

And thus it is that the architect has a two-fold tide continually rolling in upon him, and needs to keep his attention awake, his head clear, his hand ready; for there is danger that he may sink, weighed down by the shackles of prejudice, or be carried away by one or other of those billows ever swelling before him: there is danger that he may yield to the force of the merely useful, and so be cast away on the rock of mere utilitarianism; or there is danger that the charms of mere æsthetic thought may woo him to quicksands which want the necessary foundation of the useful, and where he may stick fast, unheeded by his fellow-men, because unrequired by them. It is the office of the merely necessary and physical wants to be the vehicles by which the more elevating and mental tendencies are brought out, and the right office of art is, to clothe the every-day means by which man's commonest wants are satisfied with its own beauties; so that the better, the poetical, the happy, and pure feelings of his mind are called into action, and by constant exercise are improved and perfected, to the vanquishing of evil and sensual leanings, and the imparting of many fresh delights and before unknown sources of pleasure in his soul.

The architect, if he is wise, will beware of the dangers to which we have alluded: he will rise with the immediate occasion before him, not to be mastered by it, but to direct and govern it,—willing to receive, ready to adopt, but determined to direct,—neither shutting his ears to popular calls, nor blinding his eyes by popular fashions.

With these remarks, then, we will approach our subject a little nearer, and proceed to consider the tendencies and demands by which the artist is influenced in the present day.

He has the hue and cry for new styles, new art features and effects ringing in his ears on the one hand, and on the other he is deafened with the noise of the workers in materials, hitherto only used subordinately, who extol their own inventions on mere practical grounds only, amid the hiss of the steam and the incessant rattle of the engine; and these latter are too apt to act indiscreetly, abusing materials excellent and useful to all sorts of purposes—urging on, instead of stemming, the popular tide—ever running to extremes; so that hearing of iron and glass well used and fitly for one purpose, we presently hear of warehouses and railway stations to be so constructed, and may be prepared to see imitative genius suggesting some much more extraordinary application of this combination.

The growing into unexpected use of some hidden and unused medium should be matter of great interest to the architect—of congratulation and delight if he views it aright,—and should be welcomed by him as such: the difficulties found in treating old materia's in a new way vanish in this case,—and great difficulties assuredly they are: he is brought up in old modes of thinking: he has old tools and old materials put into his hands: he has old models to study, and old lessons are imprinted on his mind: what wonder, then, if he finds it difficult to break away from old paths, to get rid of old impressions, and to mirror back new views from old reflections.

Perhaps the greatest architectural feature of the age is the growing introduction of cast metal into all sorts of buildings, and for all sorts of purposes. Now if the metal has within itself the elements of successful utility, its progress will not be arrested: a cold reception may delay its usurpation, and maintain against it an unequal combat on the part of its antagonists, but they must succumb at last; and might it not be better if the architect, foreseeing the end, would apply his mind to the present need, and lend his aid to place the new feature at once on a loftier elevation—detracting nothing from the past, but giving the thing of this present its full weight and singularity—marking out his own age—walling off his own epoch from those previous—setting up a great landmark, an eternal pyramid of fame?

In the architecture of past ages, some signs of the passage of one material into another may often be traced: wooden framing and construction leave their impress on succeeding stone, and evidence of the usages of one age becomes transferred to another in which the latter no longer exist; so that the intense absurdity is again and again perpetrated of erecting buildings on principles contrived for one part of the world in some other part totally dissimilar: thus, Gothic churches are built in India, and Egyptian buildings in Britain; but surely there is for us a grand opportunity of avoiding such errors: the architect working in Rome must almost necessarily divest himself of all idea of stone and wood; and so, he may mark the change, as instant and rapid and as wonderful as that which took place when the Early English, or first pointed, reared its sweet beauties in the land—uncontaminated by the rudeness of the previous age—untaught, except remotely—pure and fresh as the early morn. A great opportunity this, a wonderful advantage, if the premises we have assumed are at all correct.

Practically, however, we must allow that there is much difficulty to embody any such idea: we have learned to admire mass combined with lightness—the easy flow of curved lines—the manifest beauties of scientific construction—pleasing the eye, and carrying conviction of a thoughtful and masterly mind: we look for evidence of strength, and expect to find it in solid piers and massive butments: we like to see a building alive with purpose, each portion taking up its right place in the whole—all subservient one to the other, mutually giving and receiving support and strength—receiving and conferring grace and beauty—separately, perhaps, little or nothing in effect, but, together, either by mutual help or contention of power, making a perfect whole.

In turning, however, to *iron*, we are, perhaps, indisposed to employ it, because, although it has, doubtless, some of those excellencies properly treated, yet its more proper beauties are worthy of a different order: solidity and breadth it has not, for it is rigid, and of great strength in a small compass, and its power must not be wasted: the beautiful effects of thrust and counter-thrust, and security maintained in the midst of contending forces, it has hardly at all; for it is in its nature firm and unyielding, and this intrinsic independence of each part of the rest has led to its being treated in parts only, and rarely or never as a whole—a series of panels and posts—a range of weighty beams, that form unpleasing combinations, because the effect of mind is wanting—there is no thought written on them—it is the strong metal, not the mind of man you see.

But a wall of iron would look thin and miserable? Yes, indeed, unless you will let it look like itself. Imagine a stone cathedral electro-plated with iron: what a grim, gaunt, oppressive, weighty, tremendously ugly-looking monster it would be! or, on the other hand, paint and sand your iron support, and draw joints, making it look like stone: what a dangerous, frightful aspect it would have! nothing would tempt the spectator near it, unless he knew the mystery. The architect must make the spectator understand the *nature* of the power he is dealing with: he must let its strength be seen: he must let it discover itself, not in its native grimness, but with its sternness purified into serene power, and the might of its brute vigour tamed and led by his art influence.

Suppose, for example, you were required to design a church,—to put what some would call a very gross case,—the main feature of (not the entire) construction to be iron, as stone usually is now: suppose a railway king, whose dominion grew out of iron, directed you to do this,—because he loved the metal, first, and, secondly, because he might be able to add that the cost was only half what it might otherwise be: would you laugh at him, reason with him, or quietly give him up as past mending? The circumstances would authorise you to do none of these: no, you would act more worthily of your art, which should be ever slow to yield to difficulties, if you applied your mind to the idea, and strove to carry out your employer's notion.

True, the mere thought of such a case to the sticklers for imitation of the past will be beyond endurance: indeed, the strict precedentmen are out of court altogether, and have no resting-place for the soles of their feet. But it may happen that more liberal thinkers would feel a natural instinctive repugnance to any such idea. What is to become of old associations, hallowed recollections, the poetry of the past? Shall we forsake those forms, garlanded by poets with wreaths of song—by art clothed with beauty—in which the religious man believes he can trace the influence of the religion he loves, and in which the scientific man sees the exemplification of those technic excellences which fill him with pride and call forth his approval and admiration?

Estimate all this at its utmost value—give it its just weight in the scale; and, after all, it is not of such immense importance as may seem at first: the immortal mind of man is still the same: the poet is no less so, if from the gorgeous city he be transported to an island of rock and desert; nor is the heart of the religious man changed because the forms at present around him may vanish: we may learn from the past, that outward fashions do not rule the higher inspirations.

But to return. The architect having his instructions, how shall he carry them out? First, as to plan,—his mind may advert directly to what he has seen and practised a hundred times—the old arrangement of nave and aisles: well, let him take it; not because it has been used before, but because it is a good plan and a reasonable, and perchance will suit him as well as any other: moreover, it is well proportioned, and the divisions of the building always fall in together pleasantly, and with harmony. But the thought of piers and arches to divide his nave from his aisles occurs to him: no; so far as the arches, at least, he rejects that at once,—he sees that here he depends not on the inert strength of mass for his support; that the arch, the principles of which are the tendency of wedge-like *voussoirs* to bear towards a common centre, can have no place under the circumstances with which he has to deal: compared with stone, he has a more concentrated power, and a more resisting: acting in the place of piers, he may cluster supports of hollow open work, and these he may design in any art form he pleases, so long as it is not one that belongs and exists veritably only, because constructively, in some other medium (there he will reject the close apparently solid, though hollow, imitative column); while above he may have his transverse beams pierced, and in what pattern he may choose.

But how can he manage his walls? Perhaps he can only think of a framing filled in with glass, which he has seen at some conservatory; or of thin plates bolted together at the flanges, like a Californian house, built for ready use and quick sale; or a cast-iron lighthouse; and all these he sees are wanting in beauty,—very useful, perhaps, but wholly inartistic. He might determine that, to equalise temperature, he should have a double chamber

* Part of paper read at the ordinary meeting of the Architectural Association, on Friday, Nov. 28.

in the wall, and this would help to give him thickness if he desire it: he may consider that while iron is to be his main dependence, he may introduce other material to give him colour, while still the main framing and construction remain apparent. Perhaps he has seen the clever introduction of porcelain in connection with iron by a member of the Architectural Association. Coloured thin tiles may effectively be introduced, with a pattern on them if required; or any other dense medium, not affected by the weather; or he may coat his metal with some other metal, and so defy corrosion. But perhaps he was brought up a Goth, and feels sorely the want of buttresses, objecting greatly to a flat surface of wall: a buttress which is to resist a thrust he does not require, but stays and supports he ought to have, and not to depend on the tying in of the roof, as we usually see done; and if he were to stiffen his exterior by open-work standards thrown out at certain distances, he might satisfy his prejudices much in this respect; and all the while his aim and treatment would tend to show light nervous strength, without heaviness and without flimsiness.

But here is a difficulty: his client will have the church seen for miles away: he likes a tower and spire, and will have one.

Now, the feelings excited by heaping up stone on stone, and rearing a mass solid as the natural mountain, telling of ages gone—looking to ages to come—mighty mass, unyielding power,—this he cannot imitate, at least in the same way: to cast blocks of iron hollow, and pile them up like stones, he feels will not do; but might he not put up a structure of powerful framing, of bold outline, and exterior bespeaking stern endurance, which should in another way convey similar impressions, while he might elevate an open-work enriched spire, the whole meeting, in some degree, the end he desired?

In this case we have of course been supposing an influence from that which exists around us, not arguing that this or that suggestion is in any respect the most applicable.

In executed examples of iron-work there is a want of profile and projection, a baldness which we believe might be avoided, although, without question, our material is less susceptible of light-and-shade effects than many others; while it is as true that mouldings and water-tables, cornices and large projections, massive consoles, &c. belong to quite another order of beauty.

With regard to ornamentation, although there is no opportunity for the stone carver, is the talent of the worker in iron less—the art of the chaser and finisher—the elaborations of the cunning smith in wrought work a lower order than the mason's? Assuredly not; while there is a vast field unexplored of ornamentation by the incrustation of one metal on another, and gilding, silvering, and the employment of colour, are of course altogether admissible.

Having carried our supposed case thus far, for the purpose of covering our assault on the castle of prejudice, let us revert to what we originally started with, namely, the desire to show that unexpected innovations are not to be cried down and opposed because new; and perhaps some may think, after all, that even such an extreme result as we have contemplated is not so abominable, so incapable of good treatment, so decidedly inappropriate, unworthy of the art, and impossible of execution.

And I would urge, that he who could embody in some worthy form the demands of the age, would render good service to his compeers and to his country: an unknown wilderness, as it appears as yet, is opened out to us: he would be a great man who could map out the right track and find out the paths that will lead to the pleasant places in the new land.

Surely, it is the want of this feeling that is making us each day go on preferring old wares to new—making us writhe about in the confined bounds we have raised around us—continually trying to escape from our self-imposed imprisonment, but whenever we do so, in some degree giving melancholy evidence that we have riveted the chain too strongly—that the bricks are too heavy; and even if we succeed to some extent, still the name of our art-prison is branded upon us, and we and our art-country are known wherever we go.

Is not this so in the great majority of the attempts of modern art at originality? Is not the result of thought, labour, and great desire in the designer, in too many instances, only a jumble of styles—an incorporation of one principle with some other perhaps very antagonistic—a kind of happy family of art notions, forced to live together in seeming harmony, but in real nature altogether at variance?

But with a new material, such as the age would seem to bring ready to our hand, all these difficulties disappear.

Can I be wrong if I strenuously urge upon the enterprising members of the profession the necessity, the desirableness of turning their earnest attention to the possibility of some such change?

But the particular feature we have been considering is merely one out of many new things which abruptly meet us: another feature of the day—the result of an almost insatiable demand—natural offspring of the spread of science and exercise of ingenuity—is, the production of numberless details, ornaments, and parts of a building by machinery; so that there is an oppportunity for those too idle to think, or too incapable, to find ready-made efforts of the mind of others, which they buy as articles of commerce and use—papier maché and cannabic ornaments, designs for decoration, composition, enrichments, &c. &c., the tendency of which, if used to any extent, must be to render the offices of an original designer in many cases less necessary, and so to give an encouragement to idleness, and by the decrease of the demand and the want of practice, to dull the edge and sap the vigour of the artist mind. It is difficult to say how this state of things should be met: perhaps it must rest with the architect's employer: if he will have the greatest show albeit with the least intrinsic value—the most in appearance for his money at the lowest trade price,—then such means must be used; but if the architect may choose, will he not do better to rest content with harmonious plainness—with actually designingand putting forth only the efforts of his own mind—even to the loss of showy elaboration, which he may not be able to afford? He will assuredly be the gainer thereby in mental culture and experience, and his employer will possess an unique and therefore valuable work.

I confess I think the profession ought not to encourage the sale of this ready-made art garniture: if the practice could become universal, then that architect would be the greatest man who had the most complete collection of trade tariffs, and who was most fully up to the market-price of, literally, "the materials of his art."

Let, however, a wide distinction be made between this and the employment of machinery in the production of works of original design. There has been some empty talk of how the production loses, if the hand and finger of man be not immediately on it: there may be a great increase of interest if, when contemplating the beautiful turn of a moulding, we can picture to ourselves the intent earnestness of the mason, hanging over the work as one of love, following it out carefully as it grows beneath his hand, and emerged from the rude stone watered by the sweat of his brow—the task before him one of thoughtful admiration—the success heart-gladdening—the recollections of grateful toil soothing in the weariness of evening; and, it may be, reminiscences of the beautiful still sweetening the slumbers of night: and truly such are the influences of Art! at its birth gladdening and raising the producer, for the time at least, above the things around him, and ever after continuing to minister to the happiness of mankind. It may be that the machine-worked moulding has reached maturity by a process less graceful to the producer, but is there not as much of the human in it, as much of mind, effort, and thoughtful power written on it? I might say that there is a greater impress of the power of mind; that the iron sinews and discoveries of science brought to bear and made subservient to the art-mind are as valuable as interesting, and more so, and more wonderful, giving in the thing produced as much matter for reflection and food for imagination, making it a yet greater monument of what the mind of man may achieve.

When I consider the fact, that never yet has that metal which I have chiefly alluded to, iron, been used in any important manner by any architect—that not even has any design ever been publicly exhibited for doing so—that while terms for the division of Gothic architecture, the manner in which enrichments on Gothic mouldings are carved, are subjects capable of exciting intense interest through the length and breadth of the land—I must feel that the effort is not ill placed, or the time thrown away, in directing inquiry to some of those things which are about us,—that it is at all events well to bring the subject before you for your discussion.

Is it not almost astonishing that no spirit of speculation or inquiry should have led any one of the immense body of architects in this country to test and ascertain at least what might be done with this metal?

James Edmeston.

THE CATTLE SHOW, KING-STREET BAZAAR.

The "coming event," Christmas, begins to "cast its shadows before," and in the present instance assumes the more substantial than graceful form of monster pigs, colossal sheep, and mammoth oxen. The King-street Bazaar again opens its doors to these giant specimens of over-feeding, not as solitary wonders as at a country fair, but in whole flocks and herds, until our ideas of natural history become so distorted, that the leg of mutton put on table to-day looks more like a giant model for a "swarry" than a reasonable "family joint." There are "trimmings" to match, and Prince Albert exhibits pumpkins that render the transformation of one of these vegetables into Cinderella's coach a commonplace idea. We look to see the accomplished honorary Secretary mount the box and scamper off with the heroine of the small slipper.

In our innocence, or, as modesty should suggest, ignorance, it is not without the assistance of the labels that we are able to distinguish between the mass of flesh ticketed "Southdown" and the mass of flesh ticketed "pig." The labels and the wool are made for such as we.

If to the inexperienced eye, however, their form and proportions (?) fail to instruct as to the "improvement of breed," there are moral lessons which we cannot choose but read. In that specimen of the fleecy tribe, see how sensual indulgence has obliterated every line of shape it ever possessed. See how the calm reflective light that shines out even from "sheep's eyes," as it chews the cud of sweet and bitter thought in summer fields, has given place to the dimness of utter vacuity. What a pity that this moral lesson will not be so legible when this sheep becomes mutton! Can that really be a pig that looms upon our sight in Mr. William Culliford's silver medal pen (No. 263)? A small specimen of pork, something more than sufficient for the supply of rations to a fleet bound for an Arctic winter. A mystery how it could have been placed there, but a still greater mystery how it is to be removed. A work requiring diplomatic care and circumspection.

"Take it up tenderly,
Lift it with care,—
Fashioned so slenderly,
Young and so fair."

But we shall be called to order, and reminded that the philosophy and poetry of bricks and mortar, the building and the implements, are the objects that should more particularly engage our attention. Well, so be it.

As we struggle through the crowd we catch faint glimpses, bringing back fond recollections of the Great Exhibition. Here stand

some agricultural implements, in whose scarlet wood and bright blue iron we recognise some old acquaintances. There some Phillips's Fire Annihilators with their *one* fault—that of never having extinguished a real fire yet. Here we have a peep again, if we mistake not, of a certain state carriage, dim-faded and despondent at the change of scene. The new specimens of agricultural implements, which seemed to attract the largest knots of jolly, leather-gaitered martyrs, were:—The Hand-mills, stand No. 190; the Boiler Cooking-apparatus, for linseed and oats for cattle-feeding; and our old friend Mary Wedlake's patents.

The building itself deserves a few words. The alterations have been extensive and complete. Instead of the former, makeshift, the animals are specially and handsomely provided for; and as we gradually lose ourselves, wandering about these extensive premises, we note various additions and improvements. Gallery seems to succeed gallery in a perfect forest of columns, girders, and iron roofing. We see openings in the distance that are as deceptive as those prospects of horizon that wearied the Children in the Wood. Long before we reach them other bazaars and exhibitions have led us astray. Here again some crystal gems from the Great Exhibition are collected in a separate bazaar, devoted to Messrs. Apsley Pellatt. Some antique vases are placed in a wall with niches, after the ruins of Herculaneum: there the Panklibanon iron works, a large collection of itself, and then an ordinary fancy bazaar, spreading far and wide, filled with the ordinary fancy wares for attracting lady-buyers. Madame Tussaud's and a new Indian diorama (of which below) require no inconsiderable space, but manage still to leave room for large collections of carriages, sadlery, furniture, machinery, and fine arts. To cover these over with a tolerably uninterrupted building, is, in itself, evidently no easy task, and we have, consequently, buildings seated upon other buildings where ordinary ones would have roofs,—stories, jutting out over other stories, upon giant cantilevers, and the whole connected and linked together with all the modern profusion of iron appliances, suggesting what a strange gaunt iron skeleton it would make, with its sinews and flesh of timber and bricks and mortar fallen away,—a curious and characteristic ruin of the 19th century, contrasted with one of our old baronial castles of the 12th. The whole evinces a tact in economising space, that does considerable credit to the architect, Mr. W. A. Boulnois, the son of the proprietor. An addition to Madame Tussaud's portion was made by Mr. Grimsdell, but the recent additions and alterations have been executed by Messrs. Winsland and Holland.* The whole is very interesting, especially—the pigs!

DIORAMA OF HINDOSTAN, AT THE BAKER-STREET BAZAAR.

THE new Diorama which has been opened at the Bazaar, in Portman-street, will interest a large number of persons. While the "Overland Route" depicts the way to India, and Mr. Stocqueler's "Scenes," at Willis's Rooms, gave glimpses of the mode of life pursued there by Europeans, this represents the interior of the country from the source of the Ganges, at Gangoutri in the Himalaya, to Fort William, Bengal, and shows the numerous fine buildings which adorn the banks of the Holy River. It has been painted by Mr., Philip Phillips, the figures and animals by Mr. Louis Haghe, and the shipping by Mr. Knell. All have done their parts admirably and the result is one of the best painted dioramas that has yet been produced. A gorgeous moonlight scene; the Bengali women committing their little paper boats, carrying lights, to the waters of the Ganges (thence to draw augury); the elephant establishment at Plassy; a mosque at Moorshedabad; a storm, and a sunset are amongst the most striking effects displayed. It appears to be painted with great attention to accuracy. We heard one of the fairest part of creation (and a good specimen of it too) identifying beyond a mistake her sister's house, though we happen to know the place itself was many a long mile away: such is the strength of imagination winged by affection.

The architecture is admirably well portrayed,—correct, and firm. The figures in some cases are over tall, and so lessen the size of the surrounding objects, but are throughout painted with the power that Mr. Haghe possesses. All who would have a notion of our *little* territory out in India should go and see that part of it which is here depicted. And if they call to mind that the first charter to an association of merchants who desired to trade to the "East Indies and countries thereabout," is dated 1600, and that the founder of Calcutta was alive 150 years ago, they will have matter for thought as well as amusement for the moment.

* To be a little more precise on this point, the alterations which have been made consist in the conversion of the premises lately held by the Hansom's Cab Company, comprising a yard nearly 200 feet long, with stables and lofts on either side, into covered ground-floor space for the exhibition of the cattle and sheep, and light galleries for the implements. The yard has been covered by a building entire in itself, supported on cast-iron girders and columns, with quoin and buttress piers of brick in cement. The floor of this building, on Fox and Barrett's principle (a capital job), is supported on deep open girders 30 feet span, and is sufficiently elevated to admit of a clerestory under it, to throw light to the galleries and ground floor. The walls are of brickwork; and the roof of timber, slates, and lead, in the ordinary fashion. This building was designed for, and is appropriated to, a panorama of Hindostan, and consists of a museum 30 feet by 30 feet, by 20 feet high; a theatre, 60 feet × 30 feet; and a stage with wings, 60 feet by 15 feet. It is approached by slate stairs 6 feet wide, the entrance being from Baker-street, through the new showrooms constructed in the old riding-school of the Bazaar. A new roof of 40 feet span, 200 feet in length, has been thrown over the old implement galleries: it is a collar beam roof, the principal rafters composed of deep flitches of wrought iron and wood bolted together, the collar of cast iron, open pattern, the ties of wrought iron bars: the rafters are framed longitudinally between the principals as a floor would be, are 10 inches deep, and are cross and diagonally strutted, boarded for the slates, and ceiled with plaster underneath. The floors of the new galleries are carried by girders composed of wrought iron and wood flitches bolted together, the flooring being framed into binders.

ON THE FORMATION OF A SCHOOL OF ART FOR ARTIST WORKMEN, AND THE ESTABLISHMENT OF A MUSEUM OF MEDIÆVAL ART.*

WHATEVER interest may be felt generally in improving the workman in the knowledge and practice of his trade, to the architect it is especially a matter of concern. All, indeed, allow this, but they ask how the improvement is to be effected. The Government have offered to teach the workman to design, and others have undertaken to instruct him to draw and to model: some have thought lectures would do, and have given him books to read, and I have no wish to depreciate the value of either; but it seems to me that in the great majority of cases they are likely to fail, because the mind of the workman is usually altogether unprepared for their reception, and however numerous and however able they may be, his memory is so little practised, and his powers of abstraction and attention so little cultivated, that he cannot follow them up. He hears a very able lecture, and perhaps remembers some striking part, probably some illustration, but of the general scope and bearing of it he sees nothing, and of the principles which it may be the object of the lecturer the most fully to inculcate, he remembers or perceives nothing, as he comes to the subject, whatever it may be, profoundly ignorant, not only of it, but of all other collateral and necessary branches of knowledge.

In the school which I am about to propose for your consideration, we shall take the workman just as he is, viz., from his bench, without, it may be, any knowledge whatever of the fine arts, derived either from lectures or books, or the teaching of his master, and possessing, indeed, nothing whatever but the knowledge of his handicraft, which he has acquired at his daily labours. He would first be required to make a copy of any simple object in the common material of his trade; but this, his first task, he would do by himself in his own way, so as to enable us to judge of his capacity and skill. Thus in a very short time it would be seen what each man could do, and for what he was best fitted—in short, where his strength lay; and we could direct him accordingly. It would not be necessary that he should complete his first task, its object being simply to ascertain practically what progress he had already made in his art. Another model suited to his present powers thus ascertained, would then be set before him, and he would be required to draw on the stone (supposing him, for example, a mason) a correct outline of the plaster or natural model. I do not mean a neat drawing, but a broad bold sketch. He would, of course, if altogether ignorant of drawing, begin in a clumsy way, and to tutor his hand as a draughtsman he would be set—but not till after he had made some trials on the stone—to make a rough sketch of the object in black chalk on a board, and of the full size; for nothing can be more thoroughly useless to a workman than small drawings. The simple purpose of this process would be to train his hand to draw, and not to make a picture of the object, for to do this we should have to teach him perspective, foreshortening, and a host of other matters, with all of which, however interesting in themselves, the workman as a workman has nothing to do: his time and the money he pays to learn are valuable, and he cannot afford to bestow them on picture-making and neat drawing, but what he is anxious to do is to copy the model, not in a drawing, but in stone. After becoming in this way tolerably expert in the leading lines of his model, he would commence drawing it on the stone itself, in which, perhaps, he could not well have too much practice, for the most accomplished draughtsman on paper, fresh from the Royal Academy itself, would find some little difficulty in drawing the foliage of an early Gothic capital on the turned block.

When the work was so far completed as to be ready for finishing, it would be the business of the teacher to point out carefully to him where the general lines failed, and where they were successful, and to caution him against the common fault of cutting away too much and impoverishing the work; for it is better to have the lines too heavy than too light, as time takes away, but never adds to the crumbling stone, and one would like a more art-enlightened age to see what the working-men of to-day could do; for their interest in old work will arise from the knowledge that so many centuries have elapsed since it was cut, and their pride will be that it has been untouched by all but time, whom assuredly they will pardon for taking away so many grains of the stone when they see the colour he has given. The workman would next proceed to finish his work, and bring it up to the model, still using the chisel, and still being cautioned, else all his previous labour would be vain, against the almost universal idea that the value of sculptured work is to be measured by its smoothness to the touch; for people are to be found who will pass their fingers over the surface, and then pause enthusiastically over the feeblest work, because it is smooth to the eye and finger, when perhaps had the artist been contented to leave some marks of the tool, he would also have left some life. The workman would hence be taught, and in time would come to see, that if he could do nothing with the rough chisel, sand paper would not assist him. The principles which guided the artist in the production of the original work would, as far as possible, be pointed out to him, for he would now be prepared to listen to them with advantage, and to appreciate their importance, just as a learner when able to read correctly begins to perceive the importance of grammar, and to feel interested in it, not as a dry study, but as something essential to his further progress. This would, beyond all other plans yet tried, compel him to think, and make him something more than a machine, by inciting him to feel an interest in his daily labour—not a mere ordinary sluggish interest, just sufficient to enable him to do his work, but an interest so great as to induce him to strive to get forward: his work would rise in his mind from a dreary necessary labour to a delightful and pleasurable occupation—from a feeling of doing nothing but his master's work, and for his master's interest, and for weekly wages, he would come to feel that he was working for himself, and to his own credit.

* The following is a portion of a paper read by Mr. Allen, at the ordinary meeting of the Institute of Architects, December 1st, already referred to.

With reference to the Museum of Mediæval Sculpture, which it is proposed to form as a necessary part of the school, a few words may suffice, as the importance and interest of such a collection will not, I presume, be questioned, even by those who object to the school. There is not, I believe, in England anything accessible to the public which can be called a Mediæval Museum,—a fact not a little surprising, when the wonderful remains of the middle ages, and the proud display of which this country can boast, are taken into consideration. The British Museum contains specimens of artistic skill from every country on the face of the earth; but not a single leaf, or flower, or fragment of stone, from our own: not a single shelf in the whole establishment is devoted to British antiquity, though the interest that must attach to a collection seems past all possibility of doubt. And surely no country has so glorious a collection of effigies of kings, nobles, warriors, and priests; not like the Ninevite, nameless, and without histories, but all of them, their names and their deeds, their ancestry and their successors, known as well as the most familiar story. But all these have been passed by as utterly worthless, by the side of some broken Greek inscription, containing perhaps a list of the names of the doorkeepers of some forgotten temple. And not only are they of surpassing interest, as monuments of antiquity, but some of them are beyond all praise as national works of art. As works of art merely, and without reference to their antiquity, they are second to none; and specimens, I take it, may be found, not only equal, but perhaps superior to anything on the Continent. The men of the middle ages in our country were not only inferior to none in all Europe, but in not a few instances superior to all; for the beautiful style of architecture which they cultivated never reached in the hands of either the French, the Germans, or the Italians, the point of excellence which it did here. Try it by any standard we will—by principles, when we have them—by rules, when we know how to apply them—or by comparison where memory serves,—the glorious style, as we have it in England, is not only second to none elsewhere, but infinitely and marvellously superior to all. I hold them in all respect, and hope to see all the evidences of their skill; but let us not do injustice to ourselves by giving undue credit to foreign works because they are distant and less familiar.

Let us then try to collect under one roof a connected series of what yet remains to us untouched by the desolating hand of restoration, and thus leave to those who follow us the plaster evidences at least of what our forefathers have left us; and what we have studied, and wondered at, and tried to emulate, let them study, and wonder at, and emulate.

At the close of the paper—

Mr. Scott, Fellow, said—On the main points there could be no difference of opinion: that architect who had not felt the great want of artistic skill in the majority of the workmen employed to execute his designs, was indeed fortunate. The only question was as to the best mode of supplying the want. They must all agree that a school in which workmen might be taught thoroughly to practise each his own branch of ornamental art, was worthy of their support.

Mr. C. H. Smith, visitor, said, that, having been brought up as a mason, he was much more in favour of example than of oral instruction as a means of educating workmen. It was of the greatest importance that ingenious workmen should be able to examine a good collection of examples, which indeed would be infinitely more valuable than anything they could be taught; for it was very truly said that "he who learned nothing but what he was taught, would never know much." He attached the greatest importance to an extensive museum of specimens of art-workmanship. Actual specimens were far more valuable than squeezings or plaster casts, which could not possibly convey the spirit of the tool and the sharpness of the chisel. He had been frequently applied to with respect to the execution of Gothic carvings for modern churches; and when he stated the price which ought to be paid for their proper execution, the parties went away quite astonished at the price named. Whilst carving was put into the general contract with builders, it was impossible it could be properly executed.

Mr. Seddon, Associate, mentioned the success which had accompanied the "North London School of Drawing and Modelling," at Camden Town; in which, since its establishment, 600 or 700 workmen had been engaged in drawing and modelling. With regard to Mr. Allen's plan of instruction, it was his own opinion that it was impracticable. The great variety of the different classes of workmen attending was astonishing, and it would be impossible to provide the necessary space for all the different materials of their trades, if they were to work upon them in the school, while it would be difficult to find parties competent to give the practical instruction suggested.

Mr. Barry, jun. Associate, thought the chief difficulty to be surmounted arose from the commercial principle referred to by Mr. Smith, and the ambition which all men felt to better their position. The practical instruction suggested by Mr. Allen would tend to make the workman feel a pride in his own art, and the commercial difficulty might to a great extent be overcome.

Mr. Alfred Smith, Fellow, thought that with regard to carving, architects ought to take it into their own hands, and not allow the builders to have anything to do with it. It should be kept out of the contract or specification, and superintended by the architect himself.

Mr. Burns, Fellow, said it was a very easy thing to say that architects should take the superintendence of carving into their own hands, but they had very little power where money was concerned. In reference to the education of workmen, he felt convinced that without teaching them drawing and modelling, so as to appreciate a drawing when put before them, they could never be made carvers.

Mr. Hardwick, V.P., before quitting the chair wished to express his sense of the extreme importance of educating workmen in art. Architects constantly experienced the want of a knowledge of form and effect on the part of workmen, and a consequent difficulty in getting their drawings properly carried out. Differences of opinion might exist as to the best mode of conducting the required school, but undoubtedly some education was highly desirable. The Royal Academy was confined to the fine arts, and accomplished its purpose most successfully. The Government Schools of Design were connected with commercial art, and drawing and modelling were there only taught to lead the students to design works for manufacturers. The means of educating workmen in metal, stone, and wood, so as to understand architects' drawings, were still wanting. He hoped the members of the profession would unite to form such a school as they required, with a museum as a collateral branch of it.

On Monday, 8th, Mr. C. Barry, Mr. Clarke, Mr. G. Godwin, Mr. Penrose, and Mr. G. G. Scott met Mr. Allen to consider in what way the proposal could best be carried into practice. Letters of concurrence from Mr. T. H. Wyatt, Mr. Carpenter, Mr. Ferrey, Mr. Cundy, Mr. Hardwick, jun., and many others, were read, and it was determined to form a committee, and to open a subscription in support of the project. Mr. Scott agreed to act as treasurer.

ARTIST WORKMEN.

The conversation which followed Mr. Allen's paper, at the Institute, induces me to beg your attention for a few remarks. There seems to be a pretty unanimous feeling that the sculpture now applied to our buildings is not equal to that of old times. That feeling is justified, not only by a glance at examples where it is used architecturally, but is, alas, only too dreadfully true where it is used *per se*, as let the public statues which disgrace and disfigure London witness. With this branch of sculpture, however, we have nothing or little to do at present: it is the figures, fruit, draperies, &c., applied architecturally, which are complained of, and which it is proposed to reform by the foundation of an artisan school, after attendance at which every workman will be a great sculptor in his way,—give spirit, life, and meaning to his work,—and we be proud of the sculptural parts of our buildings, instead of ashamed of them, as we ought to be. I have no faith in that plan: this idea of turning the hands into the head will never succeed: the great mass of workmen will be the mechanical hewers of stone, and nothing more, whilst stone-masons are masons: it was not otherwise of old, is not now, and never will be, as far as we can see. The secret of the superior sculpture in *all* periods of art, down to Grinling Gibbons, in England, was, that there was one great sculptor employed, who worked, himself, who superintended those who assisted him, and who finally gave the finishing touches to the whole work; and that not slightly, by just putting more force in a frown, more joy in a laugh,—but to such an extent as to leave the pre-eminent mark of his own individual power throughout the whole mass. Besides which, let me add, that the sculptor worked always in the style of the time, and with the life and knowledge of his time: he was not required to get up a fictitious feeling for a period of art *inferior* to his own; and if told to seek the style of an era not his own, it was an era which led him on by a noble emulation to an excellence which has never yet been surpassed. I could say more, much more on this subject of the deficiency of architectural sculpture, which is the sculptor's fault, arising from a pitiful little pride, preventing our great sculptors from giving that assistance to architecture which was never thought a disgrace till now. However, doubtless, money has much to do with this. Although a school for the workman may not be amiss, I would also suggest a school for the architect. One gentleman, who prided himself on being a "practical" man, said he saw much of architects, and they often did not know what they wanted themselves.

There was a time when architects were *artists*. I will pass over the grand, the revered names of the great painters and sculptors of old, and will only say that I have seen—we may all of us have seen—drawings by Sansovino, Sanmichele, Balthazar, Peruzzi, Palladio, Brunelleschi, and many others, which bespoke quite sufficient power over the human figure, animals, and ornament generally, to raise them above the level of ordinary artists. We have great architects *now*—men who do more, and on a larger scale often, than they of old. I would ask them what they know of drawing? Who is the stupid workman to be complained of? I will not go further into this to me painful subject. I will not appeal to those whose names stand first on the list of successful architects to give us proof of their knowledge of drawing,—of their capability, without external aid, of making the workmen know what they want. To those who have somewhat of the heart and soul of the artist about them, I would say, and *do* say, seriously, earnestly,—avoid this *trade* (for trade it is): the genius of the art of architecture is dead, and gone: if you love art enter not here, for here art is a sin, and will, if followed by you, bring nothing but neglect and disappointment. Have you an oily tongue, a glib speech, a lust of gold at all price, a good connection, a sound business tact and knowledge? Can you flatter patrons, cajole committees, bully builders, now bend and fawn, now dispute and withstand? In fine, can you do all that is necessary in all professions save those of the gentle arts? Then enter here. And *with* this knowledge the reward of success will be some thousands a year; but as to the art which you love and seek, it is anywhere but here: you may instruct workmen, but it will not therefore come: you may get some great sculptor to aid you, but it will still be absent: you may weep over it, but your tears will not revive it: you may pray over it, but the soul is not there, and will never come until the architect shall be valued, not by his means, his manners, or his name, but by his love for, his knowledge of, his manual power in, *all* the arts connected with his vocation. * * *

Bricks for the Million.—At Stourbridge, according to the *Worcestershire Chronicle*, a machine is at work producing perfect bricks from untempered clay, at the rate of forty-eight a minute. The bricks are said to be of such consistency as to be immediately fit for the kiln. It is added that there is little doubt the machine would produce them at the rate of 100 a minute, if required.

NOTES IN THE PROVINCES.

Nottingham.—The site for the church cemetery is now fenced out. An open space of eighty acres immediately adjoins it. More than 800 out of the 1,000 shares have been sold by the committee.

Lutterworth.—A national school has been erected at South Kilworth. The design is said to have been furnished by the Rev. Mr. James, of Theddingworth, and the work was executed by Messrs. R. and J. Law, of Lutterworth, builders.

Heyford.—Steeple Baston Church has been entirely rebuilt, and was re-opened on Friday, in week before last. The cost of the building is about 1,200*l.*, which has been realised chiefly by mortgaging the church rates for twenty years.

Crewe.—The site of the town of Crewe was sold twenty years ago to the late Mr. Edelston, at the rate of 5*l.* an acre. The present lord of the manor is said to be in receipt of 1,500*l.* an acre for land set out for building purposes!

Liverpool.—At a recent meeting of the Dock Committee, the Sub-committee of Works submitted plans for warehouses on the east side of the Wapping Dock. The plan included the erection of nine free warehouses as the best arrangement for light. The surveyor was required to furnish plans of warehouses with vaults. A notice of motion has been given "that the sub-committee of works do forthwith furnish estimates for warehouses on the quays of Stanley Dock or other north dock, as an introduction to an extension of dock warehouses on the quays of the northern docks." A letter from Mr. J. H. Howard, of London, calling attention to the invention of a new motive power for cranes, was referred to the Committee of Works. The advantages of the new power were said to be that, without the aid of steam, a weight of 33,000 lbs. might be raised one foot high in a minute. The crane was also not liable to get out of order: a child might direct its operations, and the expense was only twelve guineas. This looks a little like the hydraulic crane, introduced with so much effect on the quays at Newcastle. The net cost of the Albert Docks was stated to be 319,491*l.*, and of the warehouses 434,892*l.*

Southwell.—The work of restoration and adornment has been for some time progressing in the collegiate church. The lath and plaster work that blocked up the clerestory in the nave has been removed, whitewash scraped off, and the masonry of several of the arches and Norman windows (formerly debased Gothic interpolations), repaired and restored. Four more stained glass windows have also been put up (making in all seven within the last three years), designed and executed by the Messrs. O'Connor, of Berners-street. Three of these are memorial windows, the subjects of which are, "Our Lord among the Doctors, blessing the little Children, and the commission of the Apostles;" "Our Lord healing the Sick, teaching out of the Ship, and at the Pool of Bethesda;" and "The raising of Jairus' Daughter." The fourth window is an offering from the artists: the subject is, "The Virgin and Child within a *vesica piscis*," being the ancient seal of the chapter of Southwell. Two of these windows and the altar furniture were in the Great Exhibition.

Andover.—We are requested to state that the architect of the works in the church of St. Mary the Virgin, Venham Dean, referred to in our last number, was Mr. Arthur Ashpitel.

Burnley.—The Mechanics' Institution building, the foundation-stone of which was laid on Tuesday in week before last, in the midst of a general half holiday, is to be erected from a design by Mr. James Green, of Portsmouth, near Todmorden; the masons' work being contracted for by Mr. R. Smith, and the carpentry by Mr. W. Parke. The building, of which the *Preston Guardian* speaks of giving an engraving, will have two principal fronts—to Market-street and York-street—and will be of the Italian style of architecture. These fronts will be built of stone from the Catlow Quarry, in Marsden, and will be wholly of polished ashlar, except the channelled rustic dressings to ground floor windows, which will be in cone-picked and frosted work. The principal entrance will be from York-street, and will have a portico, consisting of four disengaged and coupled Corinthian columns, supporting entablature and balustrade, in all 25 feet high. The entrance-hall on ground-story is to be approached by twelve steps, and opening out of it, to the right and left, will be reading-room, 28 feet square; news-room, 35 feet by 28 feet; library, 28 feet by 17 feet; also committee-room and large staircase to lecture and assembly-room on first floor. A portion of ground-floor fronting Market-street will be appropriated to two shops or offices, each 28 feet by 18 feet. The first floor will be devoted wholly to the purpose of a public hall for lectures and assemblies, and is 72 feet long by 51 feet wide, exclusive of ladies' and gentlemen's ante and retiring rooms; over which will be a gallery the full length of room. The walls of lecture-hall are to have Corinthian columns and pilasters, forty-six in number, supporting entablature with modillion cornice. The room will be 25 feet in height, and will have a covered and panelled ceiling, with a large circular dome or lantern of stained glass in the centre. Spacious class-rooms, also lodging and living rooms for a resident porter will be provided in the basement story, under the whole of which will be store vaults, fire-proof. The whole of the building will be heated with hot water, and provision made for ventilation. The entire cost of the structure will be about 4,500*l.* towards which about 2,000*l.* have already been subscribed.

Wigan.—The churchwardens have published their account for the parish church restoration. It gives the following items of receipts:—Subscriptions from parishioners, from 1845 to 1851 inclusive, 3,821*l.* 5s. 6½d.: subscriptions of non-parishioners, including special donations, 544*l.* 5s. 4½d.: interest from 1845 to 1851, inclusive, 195*l.* 11s. 5d.: Mrs. Kenyon, for the stained glass window, east of chancel, 500*l.*: various persons, for the stained glass windows west of the nave, 389*l.* 5s. 1d.: various persons, for restoring the old church organ, 125*l.* 13s. 9d.: the rev. the rector, for rebuilding the chancel, &c., 1,184*l.* 14s. 2d.: the Earl of Crawford and Balcarres, for rebuilding his chapel, 1,059*l.* 10s. 6¾d.: from the parish rates, from 1845 to 1850, 1,033*l.* 0s. 2d.: from the Commissioners of Public Works, 4,540*l.*: deductions from Mr. Harrison's contract, 72*l.* 4s. 4½d. The expenses have been 13,465*l.* 10s. 5¾d., leaving 1,591*l.* 3s. 7¾d. due to the churchwardens.

Wick.—Application is to be made to Government for a supply of convict labour for the erection of a breakwater in the bay of Wick, for a harbour of refuge to shipping in general on that coast.

Belfast.—In this bright spot amid the waste of unhappy Ireland, new proofs of a thriving and vigorous vitality are ever and anon appearing; one of the most auspicious of which is the completion of an extensive and complete iron foundry, with "a forest of tall and graceful chimney stalks," as the *Belfast News Letter* describes it, "rearing their towering points over an extensive area, for the most part occupied by sheds supported by metal columns and girders, and by all the usual, but in this place novel, accessories of a first-rate wrought-iron foundry." Here on Monday week the first boiler-plate ever rolled in Ireland was turned out by the stalwart arms of the Marquis of Downshire, who doffed his "Irish frieze" and tucked up his "Irish linen" manfully for the occasion. It appears that both iron and coal will shortly be supplied in abundance from the neighbouring counties.

Kilkenny.—Messrs. R. and H. Preston, having renewed their search for ancient monuments at the houses on the west side of Friar-street, within the original precinct of the Dominican Abbey, succeeded, on Wednesday evening, in bringing to light a very handsome tomb, at a depth of two feet beneath the floor of another room of the same house in which the former discoveries were made, last September. It is a coffin-shaped slab, of the thirteenth century, ornamented with a floriated cross of unique pattern, in relief, but without inscription or armorial bearings. A regularly arched vault has been found at some distance beneath, but it is feared that the strength of the water which bursts up everywhere on excavating in the locality will prevent any further search from being carried out. The tomb has been removed into the present abbey enclosure, in order to its preservation.—*Kilkenny Moderator.*

Taunton.—The Commissioners of the Taunton Turnpike Trusts have erected five toll-houses in Taunton and its neighbourhood, within as many years, the designs for which were furnished by a journeyman carpenter. Some members of this body, not feeling satisfied with the way in which this affair was managed, induced their fellow-commissioners, after much opposition, to offer a premium, viz, the magnificent sum of *five guineas* for the *two* best designs for two houses they were about to erect. Four parties competed, *two* of them only being architects, when Messrs. Foster and Wood's designs were selected; the commissioners at the time giving particulars of the accommodation they required, viz., a collecting-room, living-room, two bedrooms, scullery, pantry, water-closet, and ashpit; also to include a well-pump and drain-grates, shelves, and other fittings to make the houses complete. The walls to be built with rag-stone, with freestone-dressings, and limiting the expenditure to 160*l.* per house. The following tenders were sent in:—

	East gate.	South gate.	Total.
J. Corner, Taunton	£201 5 4	182 15 6	384 0 10
G. Pollard do.	199 0 0	185 0 0	384 0 5
J. Macey do.	304 9 5	179 10 0	383 19 0
H. E. Hamblin, Bristol (accepted)	190 0 0	148 0 0	338 0 0

TO REGULATE THE APPARENT HEIGHT OF DISTANT OBJECTS.

THE problem proposed by your correspondent "Ignoramus" in THE BUILDER for November 29, being one which frequently occurs in designing the façade of a building, the following is a general solution:—

PROBLEM.—What must be the height of an object, CD, placed at a horizontal distance, EA, from the eye of a spectator, and at an altitude, AC, in order that it may appear equal to an altitude, AB, at the same horizontal distance from the eye, and on a level with the eye.

In order that CD may apppear equal to AB, we must have the angle DEC equal to the angle BEA: from this the height CD, may be found by simple geometrical drawing, or it may be calculated as follows:—

The distances EA, AB, AC, are supposed to be given.

$$CD = AD - AC$$
$$= EA \times tan(DEA) - AC$$
$$= EA \times tan(CEA + BEA) - AC$$
$$= EA \times \frac{tan(CEA) + tan(BEA)}{1 - tan(CEA) \times tan(BEA)} - AC$$
$$= EA \times \left(\frac{\frac{AC}{EA} + \frac{AB}{EA}}{1 - \frac{AC}{EA} \cdot \frac{AB}{EA}} \right) - AC$$

or, $$CD = (EA)^2 \times \left(\frac{AC + AB}{(EA)^2 - AC \times AB} \right) - AC$$

which is the general rule required.

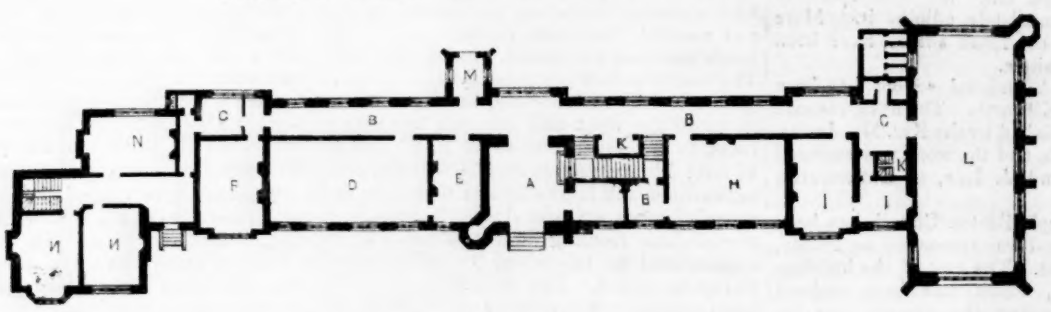
Example—

Let EA = 300 ft., AC = 50ft., AB = 5ft.

Then, $$CD = (300)^2 \times \frac{50 + 5}{(300)^2 - 50 \times 5} - 50$$
$$= 5{\cdot}153 \text{ ft., or nearly 5 ft. 2 in.}$$

E. W.

GROUND PLAN OF NEW COLLEGE, LONDON.



NEW COLLEGE, LONDON, FOR THE CONGREGATIONAL DISSENTERS.

The union of Homerton College, Coward's Academy, and Highbury College devoted to the object of assisting the appropriate education of young men for the work of the ministry among the Congregational Dissenters of London, has led to the erection of an extensive edifice in the Finchley-road, St. John's-wood, near the "Swiss Cottage," which not long ago stood all alone in the country, but is now in the midst of "villa residences," smart as compo can make them. The new building is founded on the received Collegiate type; is Late Perpendicular in style, with a central tower; and is constructed, externally, wholly of dressed stone. The building seen in our view on the right (somewhat too chapel-like in appearance), is the library: at the other end is the residence of the principal. The central tower is heavy, but the general appearance of the building is good: it has variety without studied irregularity.

We give a sketch-plan of the ground-floor, to show the interior arrangement. The best features are the staircase, and the roof of the library. Mr. Emmett was the architect, and Mr. Myers the builder. The plans were selected from a competition of ten architects.

The number of students this year, theological and lay, is sixty.

REFERENCES.

Ground Floor.	*First Floor.*
A Hall.	Council Room.
B Corridor.	Corridor.
C Lobby to Library.	Bed Room.
D Students' Room.	Museum.
E E Retiring Room.	Retiring Room.
F Principal's Lecture Room.	Lecture Room.
G Retiring Room.	Retiring Room.
H Lecture Room.	Lecture Room.
I Coward's Trustees.	Lecture Room.
K Staircase to Librarian's Room.	Staircase.
L Library.	
M Porch.	
N Principal's Residence.	

ARCHITECTS' DRAWINGS AND CHARGES.

CASE OF REPUDIATION OF A CONTRACT.

In the Lichfield County Court, on the 25th ult., a case, novel in some points and possessing features of interest to the profession, was heard and decided by Mr. Lawrence Temple, Q.C., the presiding judge in that district.

The plaintiffs in the action were Mr. E. J. Payne and Mr. Richard Potter, architects; and the defendant the Rev. W. R. Essington, the vicar of Shenstone, in the county of Stafford.

The circumstances out of which the action arose were these:—

The parish church of Shenstone is a very ancient structure: some months since the vicar and a number of the landed proprietors resident in the neighbourhood appeared to have entertained the idea of restoring or re-constructing the edifice: with the view to the former, advertisements for drawings were inserted in the local newspapers, and Mr. Payne, one of the plaintiffs in this case, having had an interview with Mr. Essington, the result was an admeasurement of the church, and the necessary preparations in the shape of drawings, &c., for restoring the edifice in the manner contemplated by the vicar, and the committee associated for the purpose. Mr. Potter had in the meantime become associated with Mr. Payne in carrying out the work, and on the 9th of June a meeting of the committee took place at Shenstone. The result of its deliberation was, that the plaintiffs were instructed to prepare all the plans and drawings, for restoring the church, together with the requisite specifications, on condition (as Mr. Payne alleged in his evidence, at the hearing of the case), that he and his partner were to be paid for all their work, or if their plan was carried out under their superintendence, to receive instead five per cent. on the estimated outlay—1,870*l.* The plaintiffs completed their work within the specified time (one month): the defendant and his friends, however, repudiated the contract: they refused to pay the plaintiffs a shilling, and it was to recover the amount,—63*l.* 18s. (13*l.* 18s. being abandoned, to bring it within the limits of the County Courts Act),—that the present action was brought.

The first witness (Mr. E. J. Payne, one of the plaintiffs) deposed to the preliminary facts as stated above; and detailing the transactions subsequent to the 9th of June, when the order for the drawings was given, he said—"Whilst the plans and drawings were in course of preparation we were constantly receiving letters from Mr. Essington suggesting alterations: a door was to be opened in one place and a window made in another, and so on, until my design became a good deal changed; and our plans were not quite so complete as they might have been, which was, however, noticed by indorsement.

At a meeting of the committee on the 10th, Mr. Essington, Mr. Manley, of Manley Hall, and other gentlemen were present, and Mr. Christian, the diocesan architect, signified his disapproval of the plaintiffs' plans. The result of this meeting was that Mr. Payne received instructions to prepare another set of plans according to Mr. Christian's views, the latter agreeing to a condition that if the work was carried out under the plaintiffs' superintendence, they should still receive only 5 per cent. on the outlay, but that if otherwise they should be paid for the plans. Notwithstanding this arrangement, on the day after the meeting, July 10, the defendant again wrote to the plaintiffs, "After what took place yesterday we think it right to have another meeting of the committee to consider what course ought to be adopted by us: I therefore beg you to suspend operations for the present. Inform me what we owe for your services up to the present time, and send the plans and specifications without delay." On the 11th the defendant again wrote, "We shall have another committee meeting on the 15th. I cannot answer for your being remunerated for any services beyond the date of my last letter." There was another letter from Mr. Essington on the 13th, and in it the rev. gentleman thus addressed the plaintiffs:—"Send in a statement of the sums in which we are indebted to you, and all the drawings and specifications of any description which you have prepared at any time on our account." The plans, drawings, and specifications were sent accordingly: in a short time they were returned to Mr. Payne unaccompanied by any intimation of the cause: the defendant refused to pay the plaintiffs a shilling. The committee, in the meantime, had changed their purpose, intending to rebuild instead of restore the church, and another architect had been consulted for the purpose of carrying out the design.

Mr. Isaac Newey, builder, spoke generally to the practically complete state of the plans: would himself have been willing to carry them out. As for the plaintiffs' charges, in his opinion they were most moderate; but as there was a degree of incompleteness, he suggested for it an allowance of one-half per cent. Mr. John Cresswell, a builder, gave similar testimony.

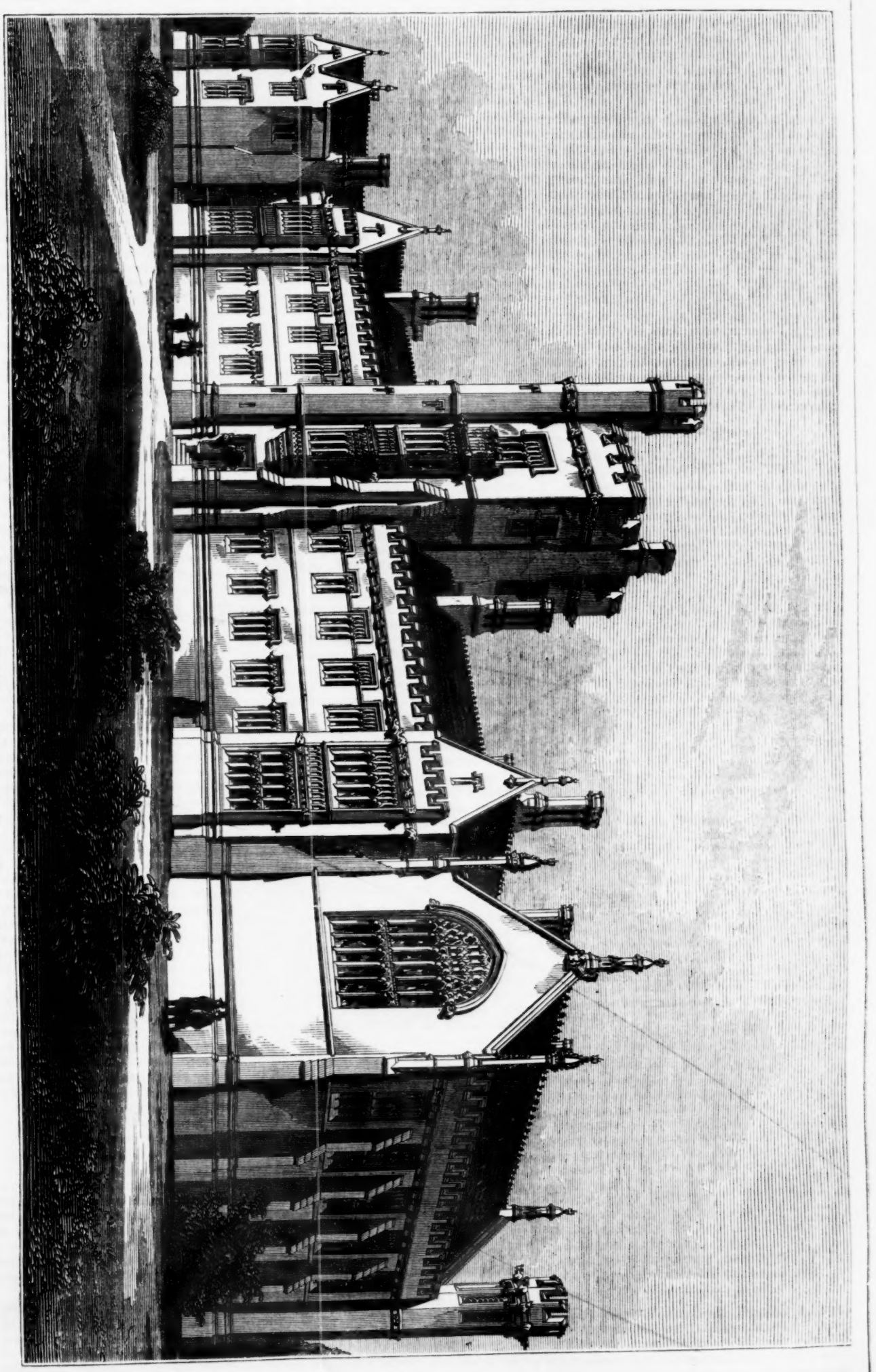
This being the plaintiffs' case, Mr. Greene, on behalf of the defendant, applied for a nonsuit on three grounds, but these were overruled.

The defence then sought to be established was the impracticability and incompleteness of the plaintiffs' drawings, which rendered them worthless and unfit to be carried out. Mr. Essington, in his evidence, denied that there ever had been any promise to pay the plaintiffs. Mr. Payne had been simply instructed to prepare plans, subject to the approval of Mr. Christian; further, that the plaintiff (Payne) had been told at the meeting on the 10th of July, that his plans were utterly valueless, and he had not a word to say in reply. In cross-examination the defendant said,—"We had very little money, and we wanted a great deal done for it. Mr. Payne promised us that, and we were foolish enough to believe him. We have allowed this action to be brought, to expose what we consider to be a rogueish affair."

Mr. Christian, diocesan architect, was of opinion that the plaintiffs' plans were impracticable. He objected to their placing 16 feet additional on a tower already supported by a buttress. The specification sent in was incomplete and inconsistent with the drawings: would not have sent in such plans himself, and as diocesan architect could not have passed them. He objected to all the suggestions which the defendant had made to the plaintiffs whilst they were preparing the designs, and had told the committee that they (the committee) were wrong. He considered the plaintiffs' charges fair: would himself expect to be paid for drawings. And with reference to Mr. Payne's statement of what took place on the 10th of July, he corroborated it.

His Honour, in giving judgment, said, two questions first presented themselves for consideration,—firstly, whether the defendant is liable to be sued in this matter; and, secondly, to what extent. Now, it is quite clear there has been sufficient of acting by Mr. Essington to fix liability upon him. He was an active member of the committee, and it is quite clear also that being so, and indeed officiating as secretary, he is liable to the full extent. The defendant seems to have given all the orders, and his instructions, so far as I am able to judge, were fully carried out. He is left, therefore, to seek his remedy against the other members of the committee. There are expenses incurred, and at the time they were being incurred, Mr. Essington must have known that somebody must be held responsible. The plaintiffs are not likely to sue the committee: indeed, it seems the committee is a mere myth. Where are the committee? Who are they? Where are their funds? It is not to be expected that men are to form themselves into a committee, give orders for work, and then disperse without any of them being liable to be sued for charges incurred. That is not the law of the land: if it were, a fatal law it would be. The defendant communicated with Mr. Payne by letter frequently: here are his letters, they are most distinct and explicit, fully contradicting everything that has taken place here to-day; and I cannot help saying that it is to me a very extraordinary thing that such an action should have been defended. As to exposing a rogueish transaction, I confess I see no pretence for such an assertion; and certainly in such a proceeding one should take care not to put on the screw so tightly as to get one's fingers in an unpleasant position. The only question is as to the amount the plaintiffs are entitled to recover, and in that I am relieved by Mr. Christian, who says that the charges are fair and reasonable. A very respectable witness, Mr. Newey, having however advised a reduction of ½ per cent. because of the incompleteness of the drawings, I shall consider that as fully set off in the 13*l.* which have been abandoned in order to try the action here, and I am glad that the Act under which I sit gives me that power. Judgment must go for the plaintiffs for the whole amount, to be paid forthwith.*

* It is right to state we have received a communication giving a different colour to the transaction, but we have no reason to doubt the accuracy of the above report of the trial.



NEW COLLEGE, LONDON.—MR. J. T. EMMETT, ARCHITECT.

THE BEST ASPECT FOR ROOMS.

THE inquiry opened up by "G. C." (page 727) is one, indeed, of great consequence, and well worthy of being discussed. Whatever ideas, or results of experience, can be brought together upon the subject, must be of value, seeing that, next to its *location*, the *position* of a house is of prime importance. I know of no writer who has given such consideration to it as the late Mr. Loudon; the merits of whose diagonal system, set forth in the annexed extracts from his "Cottage, Farm, and Villa Architecture," are deserving of being carefully weighed.

With regard to the aspect which is most common in towns, it certainly does seem to be the practice, in laying out a new town, to aim at laying the lines of main streets due east and west; and supposing it to be the case that in these the business houses are congregated, and that private residences are situated chiefly in the cross streets, then the observation of "G. C."—that the aspect of the majority of dwelling-houses is east and west—will hold good: according to my observation, however, this is not the case; but I could readily adduce examples of towns wherein the cross streets contain only the flanks of the houses, garden-walls, and mews lanes, the principal fronts being confined almost entirely to the lines of street running east and west.

Whether it is a sound practice to lay out main streets in these directions, giving all the sun during the best of the day to one side, subjecting that to its full blaze, while the other is all in shade, and rendering the walk westward in the evening, when the sun is near the horizon, so unpleasant, so far as the eyes are concerned, appears open to be questioned: were the lines laid north-east and south-west, the sunning of the two sides would be rendered more equal, and the homeward course more pleasant,—the sun, if crossing, being higher in the firmament, or, if low, having already crossed.

In saying "the homeward course," I must explain that I refer to the growth of towns, being chiefly westward, a circumstance which I cannot say I have ever seen noticed, but have observed to be generally the case, with a southerly tendency. It is natural to seek the sunshine, and hence the sites for their villas and cottages are by business men sought, by choice, westward—still westward; while, in order, if possible, to prevent some neighbour squatting down between them and the sun, they keep edging also, of necessity, towards the south; not even deterred by boisterous sou'-westers: and thus the growth of towns is influenced. In this south-west position, those same prevailing breezes, which might be considered as a drawback to its selection, exempt it from the currents of smoke that often form a canopy over the opposite quarter.

If a town were laid out diagonally to the four cardinal points of the compass, as Mr. Loudon would have done had he had the opportunity, the expressions denoting the intermediate points would doubtless become equally familiar with those denoting these points, and as simple and easy to direct by. If I am right in my hypothesis about the growth of towns, the growth of such a town would be more regular than of those whose streets are square with the cardinal points. In the country, in the case of the road lying square with these points, there is seldom any obstacle to villas or cottages being set diagonally to it, as Mr. Loudon suggests; but where that is not practicable or expedient, much of the advantage may be gained by means of splayed oriel windows; which might even, for the same reason, be employed in towns. As a general rule, where the front of a house towards such a road has a northerly aspect, the principal rooms should be turned to the opposite side; the offices being formed in wings to right and left.

As an evidence of the importance of the sunshine to our dwellings, in a sanitary point of view, and the propriety of so arranging streets as to equalise it, it has been observed that epidemics will extend along the shady side of a street, while the other enjoys a perfect immunity. This I had myself occasion to notice in the time of cholera a few winters back, in a locality where only the wealthier class of inhabitants resided. Physiologists have also pointed to the deformed growth of the children of the extreme poor, when reared in the cellars of narrow alleys in densely-built localities, where the sun's rays are prevented penetrating.

"G. C." notices the dismal character of north rooms. I have known this enhanced to perfection by means of puce-coloured papering: nothing could be better calculated to conquer the contumacy of a criminal. Mediums are usually best; and apartments that have too much sun—as in the west,—and those that have too little—as in the north, may be greatly ameliorated by means of the tints employed in them. It must not be forgotten, the while, in regard to warehouses for soft goods, that a northern aspect is preferred; which will, in a measure, explain that mysterious lining of the lower sashes with light-blue paper (nearest the line of countering), which is a remarkable feature in manufacturing towns, and in some parts of the city of London,—the object of which, I believe, is to neutralise the excess of yellow in the sun's light, which causes "blues" and some other colours to look to disadvantage: this is necessary to be had recourse to in those warehouses which have a southern or western exposure.

I hope other correspondents will contribute their views on this subject, which "G. C." has so well introduced. JAMES WYLSON.

EXTRACTS ON ASPECT, FROM LOUDON.

"With reference to Britain, and to the flat countries of most parts of Europe, the mildest aspect is the south-east; and, therefore, the door of a cottage should, if possible, be placed on that side. The next best is the south; and the two worst are the north-east and south-west. It is very desirable, in a cold moist climate, that the sun should shine on all the exterior walls of the cottage, and also in at all the windows, every fine day in the year; for the sake of keeping the walls dry, and the interior warm and cheerful. This object may be accomplished by placing any building which is, or can be, resolved into a square, or parallelogram, on the ground plan; so as that a north-and-south line will form the diagonal (of the) figure. This being done, the out-offices should be placed on the north-west side of the square, or parallelogram. The dairy and the pantry should always, if possible, be placed on the same side, or with a north-east aspect, for the sake of coolness. Tanks for water should also be on the same side, and under ground, for the same reason.

* * * * *

In all practicable cases, we intend that the dwelling should be so placed as to admit of the sun shining on all its walls every fine day in the year, with the exception of a few weeks at the winter solstice. * * In most parts of Europe the door should face the south-east. When cottages are detached, and built either singly or in pairs, and set down in a garden, the adherence to this rule of position, with respect to the sun, will add to the picturesque beauty of a village, whatever may be the direction of the road along the sides of which the houses and gardens are built and laid out. * * * In building long lines of connected dwellings of this sort, this law cannot be applied; but if the lines (which determine the aspect) be in the direction of south and north, the same advantages, in point of heat and dryness, are obtained as by the diagonal position of detached cottages; for the sun will shine throughout the year on the east and west sides of every dwelling; and the south and north sides being party walls will be necessarily both dry and warm.

* * * * *

There are some considerations respecting aspect which apply to every country; and others to particular countries or districts of country only. Nothing in the architecture or appendages of a house can compensate for its being set down on the north side of a high hill or ridge; where it is precluded from partaking of the direct influence of the sun during three or four months in the year. In most countries there is some point of the compass from which rain and storms are more frequent than any other; and to set down a house in such a manner as to be exposed to these tempests is evidently injudicious. An aspect exposed to high wind is less objectionable than one exposed to driving rains; since shelter may be afforded from the former by trees, but not from the latter by any means.

* * * * *

The preference should always be given to the south-east when practicable; as the wind, in most parts of Great Britain, blows seldomer from that quarter than from any other; and when it does blow it is always warm. The south-west is a boisterous quarter, and should only be had recourse to when it is necessary, in order to obtain a diagonal to the plan which shall be a south-and-north line. * * * We prefer, in almost every case of single cottages, to have, next the road, an angle of the building; by which the views across the road will be oblique instead of being direct; as the former, in every case, exhibits a longer perspective, which must consequently contain a greater number of objects. The grand point to be attended to, in putting down every cottage, single or double, ought to be to have the diagonal to the main building a south-and-north line: this rule ought to be considered as absolute."

FOREIGN ARCHITECTURAL AND ARTISTICAL INTELLIGENCE.

Statuary Art in Russia.—The monument of the Emperor Paul I. has been lately completed and inaugurated at *Gatschina*, near St. Petersburg, the place to which the unfortunate monarch was most partial. The bronze statue represents the emperor in a standing position, costumed according to his fashion, as in the act of commanding, &c.——At *Saratow* (on the confines of Asia), also, the German colonists have erected a bronze monument to the memory of Catherine II.

Railway from St. Petersburg to Warsaw.—The tracing of this huge line of communication has been completed, and the earthworks are now in progress. General Gerstfeld, the assistant of General Kleinmichel, director of public works and roads, is intrusted with this undertaking. This line will not keep a straight direction, and extends to the double length of that from Moscow to the Russian capital. It is calculated that it will be completed in about ten years.

Curves.—M. de Radowitz, the well-known Prussian statesman, and formerly prime minister, delivered a lecture in one of the Aulas of Berlin, "On the use of the *Curve* in Architecture." Starting from the forms, dates, and measurements of Grecian buildings, he alluded to the circumstance that if the pediment, the elevation, or the corner columns, be taken into account, curves and not straight lines will be observed. M. de R. expatiated on the æsthetic feeling of man, which prefers waiving to straight lines, &c. The lecture was held at a meeting of the Erfurt Society of Art-friends.

Italy.—At Bologna, a plan has been started to erect a *Pantheon*, for commemorating all the great men born in that city. The execution of the statues and busts is to be entrusted to M. Bollsami, professor of sculpture at the Bologna Academy of Fine Arts, in whose *atélier* two statues Psyche and Eve, in white marble, are now much admired. At Florence, the exhibition of the Academy has been enriched by a bronze group of Cain and Abel, made by the professor of sculpture. The mediæval buildings of Siena, Pisa, and Lucca, are being actively restored, and the domes (cathedrals) of Prato and Orvieto have undergone a thorough repair, when, conjointly, many injudicious restorations of the time of art-decadency were also removed.

THE IRON TRADE.—In Scottish pig-iron, it is reported, a large business has been done, mostly on speculation, on Glasgow account, and prices slightly advanced on previous rates. Staffordshire iron has been as heretofore, dull of sale, and Welsh bar iron without demand.

CONSERVATORY OF ARTS AND TRADES, PARIS.

This daily progressing and expanding establishment was founded in the year 1792, the fiercest time of the French Revolution; but, on account of its palpable utility, fostered by all subsequent governments. Its galleries and collections are a tangible and working cyclopædia of arts and trades, unique in their kind. The following extract from the programme of "Lectures, public and gratuitous, of the Sciences applied to the Arts," (*Cours publics et gratuites, etc.*) will best illustrate the large and comprehensive basis of this establishment:

Geometry applied to Arts.—Ch. *Dupin*, Professor.—Instruction in geometric drawing for the pupils of Professor Dupin.

Descriptive Geometry.—*Olivier*, Professor.

Mechanics applied to Arts.—*Morin*, Professor. The lectures will begin with a synopsis of mechanics applied to the industrial arts, after which Professor Morin will treat of the resistances of materials, &c.

Physic applied to Arts.—*Pouillet*, Professor. These lectures will embrace the production of steam in various boilers, &c., galvanoplastics, and electric telegraphy.

Chemistry applied to industrial Arts.—*Payen*, Professor, will treat of sulphur and sulphuret of carbon; vulcanization of caoutchouc; on gutta percha; on acids, bases, &c.; the making of mortars, cements, &c.

Agriculture.—*Moll*, Professor, will treat on the irrigation of meadows, gardens, and fields; the examination of foreign agricultural implements best fitted to the circumstances of French husbandry.

Industrial Economy.—*Blanqui*, Professor, will treat on the economical constitution of the principal industrial branches of Europe, &c.

Legislation of Industry.—*Wolowski*, Professor; on the *conseils des prud'hommes*, on associations of working-men, the frauds in the making and selling of articles, &c.

It is to be observed, that the days and hours of these lectures are so chosen, as to be most convenient to the laborious classes of the French capital, whose attendance at all these lectures is very considerable.

PROPOSALS FOR FOUNDING A LIGHT-HOUSE (OF ALL NATIONS) ON THE GODWIN SANDS.

The principles of the construction of the Britannia Tubular Railway Bridge have suggested to me the means of ensuring a permanent foundation for a lighthouse constructed of wrought-iron, with an exterior fender of rough masonry; to be erected on, or near, the Godwin Sands.

Hitherto every attempt to erect a lighthouse on that site has failed, from the want of a solidity to withstand the full force of wind and waves. The system which I now venture to suggest will, it is presumed, offer the following essential advantages:—The greatest ultimate stability; relatively the most economical structure for such sites; admit of being very rapidly executed with the greatest safety; novelty of design in the general construction; and adapted to other sites. It will easily be observed that from the principles of the construction, and the necessary *order* of operations in the proposed undertaking, all the incidental contingencies will be effectively provided against; but it would obviously clog the subject too much to enter into details in the first stage of introduction to public notice.

During the first series of operations, the proposed foundation would consist of two iron girders, placed in form of a cross; with the sides, top, and ends double (each being lined with wood). In order to insure easy and perfect adjustment, the girders would have an underneath curve of about 2 feet: their being hollow, and the bottom capable of being opened in compartments as required, will admit of arrangements for excavating the sand through the girders, for the ultimate foundation on the chalk rock; and thus by the superincumbent weight of the whole structure would it settle down to its proper place. A series of very large "boiler plate" telescope tubes would rise from the centre of the crossed girders, which would constitute the framework of the lighthouse, and be raised by means of hydraulic presses. The workmen before they leave the shore would test, by repeated trials, the full capabilities of the structure, which would give them confidence in the whole undertaking, as all the preliminary adjustments and elevations would be executed entirely from the interior. The men would thus have, from the first to the last, a comfortable home in the lighthouse itself. After the working drawings were finished, all the materials might be made to fit; then marked (even in the workshops of the makers); afterwards conveyed to the sea-side, and put together; advantage being taken of the finest summer months to float it out in its pontoons, and deposit the telescope tubes and foundation girders upon the intended site.

Probably the shore between Deal and Sandwich would be selected to first erect a *temporary* yielding breakwater, *in a series forming a semicircle*, within which would be put together a large circular pontoon (in compartments), the *exterior* compartments of which would be filled with water (or sand) during the period only required for fitting up the girders and tubes within the pontoon (*which would thus form a dry dock*), so placed and calculated as to enable a steam-tug to tow it all out, *when finished*, at high-water, to its destination. The pontoon being in two moveable parts, could be easily disengaged when required, leaving the lighthouse and workmen on the proposed site. Of course, the selection of the site would be judiciously undertaken by the proper authorities, who would cause the same to be carefully buoyed out: they would have also to determine the *magnitude* of the lighthouse, general fittings, and the expenses of the materials required for the structure. During the summer months a sufficient weight and strength of materials could be properly placed, constituting the foundation of the lighthouse, which would prevent the sea from washing away the first courses: the *tubes* would form the nucleus or scaffolding, around which would be reared the masses of rough stone on the exterior, which united would finally merge into the structure itself, resting on a good independent foundation of 400 screw piles. In order to facilitate the operations on the exterior, portable cranes would be adjusted to the upper works. The pontoons would play an important part; and as they would be constructed to draw only a few feet water, they might afterwards be used to convey the rough stone for the exterior and the concrete for the lower parts of the interior; and if also required, the solid gas, or even coals for making gas, in the proposed lighthouse, being a cheap, clean, and practical means of illuminating to the greatest advantage.

Arthur Gearing.

Mr. Hoblyn, F.R.S., has just now published a description of a method of effecting the same purpose.*

This is the writer's plan:—

"Having selected a central and well considered situation, I should surround a space of about 200 feet diameter with a floating mass of faggots, which has been proved to be a most efficient breakwater. Within this circle, and constructed of iron, I should moor a large pontoon, formed in the shape of a ring, whose inner radius should be 30 feet less than its outer one; thus giving a circular platform 30 feet in width, encircling the space to be operated on. This pontoon should be constructed in segments, so that its diameter can at any time be lessened by the withdrawal of one or more segments. The buoyancy of the pontoon could be lessened, if necessary, by pumping in water. Having moored this, it is proposed to commence sinking a series of hollow iron rings; the first ring to be 120 feet external and 100 feet internal diameter; each ring to be 10 feet in height, and to diminish in diameter every succeeding ring. These rings would be formed of wrought-iron, put together with inner flanges firmly bolted together, and excluding the water on all sides save the upper one. The first or bottom ring would have a sharp edge. This first ring would be attached by chains to the pontoon, to prevent the possibility of its sinking too rapidly; but I conceive that these rings would of themselves have sufficient buoyancy to enable the superintending engineer to regulate their descent. The first ring being in its place, proceedings would be taken to attach the second ring to it, and to fill in the first ring with rubble work in cement, which, by the additional weight, would cause the rings to descend. By the time that the third and fourth rings were added, thus giving a vertical height of 40 feet to the whole structure, I conceive a difficulty would be encountered in causing the rings to descend; and I then propose to commence removing the sand from the interior by the means of dredging machines.

By constantly removing this interior mass of sand, and adding fresh rings, and additional weight to these connected rings, I conceive that eventually the chalk will be reached, and the engineer will have a large shaft sunk through the sand,—a shaft whose diameter shall be 100 feet at the base and 70 feet at the top, which top shall be 16 feet above high water. Underneath the edge of the bottom ring the chalk might then be removed a few feet, so as to give the whole structure a firm and level base. * * *

Having sunk this shaft in the manner described, I would then proceed to build a strong stone building, well founded in the chalk, and entirely independent of the iron shaft, which would encase it all around. Of the detail of such a building it is not here necessary to speak. It would of course be fireproof, and afford accommodation for stores as well as inhabitants. The space between the outside of the building and the inside of the shaft would be subsequently filled in with rubble-work, which would of course add to the stability of the whole structure. The whole of the iron rings, when connected and filled in, would rise, as I have said, some 16 feet above high-water mark, and would be planked over, forming a platform round the stone lighthouse. This building would rise about 124 feet above the sands themselves. The size of this building would admit of much accommodation. The upper chambers should be appropriated to the accommodation of, I think, twenty men; who should continually reside there, not only for the purpose of attending to the main light, but also to the lesser beacons, if thought necessary, and, in case of wreck, to afford the means of manning two life-boats, each with a crew of eight men."

* Description of a Method of Founding a Lighthouse on the Goodwin Sands. By Thomas Hoblyn, F.R.S., V.P.S.A. &c. London: Samuel Budden, Fleet-street.

MEMORANDA IN CORK.

The new district lunatic asylum is now nearly completed: it is expected that the patients will be removed to it about March. A large number of men are employed in levelling the slopes and terraces in front. The church is a detached building consisting of a nave and chancel, with sacristy of the Early English period: the west end is crowned by a bell-cot: the entrance is by a porch on the south side: it is a picturesque adjunct to the main building. The exterior of the building is of a severe and forbidding character, rather too expressive of its intended uses, which by some, no doubt, will be looked upon as an excellence, but in this and like instances the rule "characteristic" might judiciously be departed from. The architect is Mr. William Atkins, of Cork, from whose designs the new convent of the Sisters of Mercy is now erecting (an engraving of which appeared in The Builder). This building is a successful adaptation of the Early English style to conventual purposes: it is built of red sandstone in the walling and light grey limestone dressings. The building is now roofed in.

A new chapel in connection with the Society of St. Vincent de Paul is now erecting from the designs of Mr. John Benson, county surveyor: it consists of a nave and aisles, with a chancel, sacristy and western tower. Being built on the side of a hill, the nature of the ground allows of a crypt, a portion of which will be used as a school-room: the foundations,

which are very heavy, are nearly completed to the floor level: the building is to be allowed to settle until March before the superstructure commences.

A new Roman Catholic presbytery is erecting at Mallow from the designs of Mr. R. Brash, of Cork; also extensive flax mills at Bandon by the same.

Tenders were received on the 27th by the Cork Harbour Commissioners for erecting a pier and timber jetty at Monkstown from the designs of Mr. Benson. The contract was taken by Messrs. Roddy and Doran, at 830*l.* The highest tender was 1,650*l.*, and the next lowest to the accepted tender was Mr. Edwards, 1,130*l.*

The time for receiving plans for the proposed City Hall has been extended from Dec. 1st to Dec. 8th, to convenience, *it is said*, certain parties at a distance, who wrote to intimate that their plans could not arrive on the day appointed. It is said some of these designs are coming from the United States. The justice of the postponement is rather questionable, as many of the architects had their plans lodged before hearing the announcement, which was not made until the very day for receiving them. I need not inform you that a few of the knowing ones are taking advantage of the additional week, while the poor industrious fellows, that worked hard and were up to time, are manifestly at a disadvantage. The course of competition never yet did run smooth.

C. D.

CHURCHYARD RIBALDRY.

HAVING read in your journal of the 29th your remarks upon churchyard memorials, and concurring in the spirit of them that though "a correcter feeling on the subject has become more general than it was," there is room for improvement; I venture to send you two inscriptions on tombstones which I have never seen in print, but which I have often read about midway up that beautiful avenue of chesnuts in the churchyard at Hertford. The inference which I draw from the two is, that a husband buried his wife, and caused the first inscription to be cut upon her tombstone; that subsequently he married again, and survived his second wife, and then died himself, his executors determining that he should be buried in the grave of his second wife giving rise to the second epitaph. The two graves are side by side.

FIRST EPITAPH.

"Grieve not for me, my dearest dear,
I am not dead, but sleeping here:
In patience wait prepared to die,
And in short time you'll come to I."

SECOND EPITAPH.

"I am not grieved, my dearest life—
Sleep on, I've got another wife;
Therefore I cannot come to thee,
For I must go to bed to she."

I enclose my card.

A MAGISTRATE.

RECOVERY OF CHARGES FOR LETTING LAND.

FIELD *v.* SMITH, IN THE COMMON PLEAS.

This was an action by a surveyor against an attorney in Southampton-buildings to recover 23*l.* 12s. 6d. as commission due to the plaintiff for letting land in Enfield, in Essex, upon a building lease. The defendant paid into court 5*l.* 12s. 6d. and pleaded that he never was indebted as to the residue.

The question in dispute was, whether a surveyor, who lets land upon a building lease, is entitled to receive from the lessor the first year's ground-rent as his commission, although it may be at the same time agreed that the lessees or builders should pay the fees of the surveyor. The plaintiff proved that in April, in last year, he was instructed by the defendant to survey, plan, and advertise the land for letting: he did so, and in consequence two gentlemen, named Lovegrove and Green, applied to him to take the land, and ultimately agreed with the defendant to take it for ninety-nine years at an annual rent of 20*l.*, and they were to pay the surveyor's fees.

Several surveyors proved that under such circumstances the plaintiff would be entitled to 20*l.* from the defendant as commission, and that the fees to be paid by the builders would be a distinct and additional payment. Several professional witnesses were called on the part of the defendant, who deposed to the contrary, but some of them admitted that they had never known a case like this, and the others that they had never let land upon a building lease.

The jury said they would not trouble his lordship to sum up the evidence, and returned a verdict for the plaintiff for the full amount in dispute—namely, 18*l.*

The learned judge ordered execution in four days.

Plaintiff's attorney, Mr. Archer, 11, Tokenhouse-yard; defendant's attorney, Mr. W. G. Smith, Southampton-buildings.

Books.

Memoirs illustrative of the History and Antiquities of Wiltshire and the city of Salisbury, communicated to the annual meeting of the Archæological Institute of Great Britain and Ireland, held at Salisbury, July 1849. G. Bell, Fleet-street. 1851.

ALTHOUGH the "Journal" of the Institute has superseded the annual volume distributed to the members under the authority of the council, it was thought desirable to continue the series of congress volumes, and the publication in the present instance was undertaken by Mr. Bell, whose only regret appears to be that from causes beyond his control the History of the Cathedral, by Professor Willis, which the central committee had made every effort in their power to secure for this volume, is awanting. In every other respect, however, this seems to be a volume entitled to rank with its predecessors. It contains, amongst various other memoirs, one on the results of archæological investigation in Wiltshire, by Mr. George Matcham; on the Topographical Gatherings at Stourhead 1825-33, by the Rev. Joseph Hunter; on the Early English Settlements in South Britain, by Mr. Edwin Guest; on the examination of Silbury Hill and other earthworks, by the late Dr. Merewether; on Stonehenge; on Painted Glass at Salisbury, by Mr. C. Winston; on Ecclesiastical and Monumental Sculpture, by Mr. Richard Westmacott, Jun.; on Market Crosses, by Mr. J. Britton; Wimborne Minster, by the Rev. J. L. Pettit; and various notes, remarks, and notices on other subjects of interest.

Mr. Westmacott, in the close of his article on ecclesiastical and monumental sculpture, gives his own ideas on the subject of Gothic revivals, in the shape of warning and advice to modern architects.

"There appears," he thinks, "to be some need to warn one section of a school of would-be reformers against opening itself at least to a suspicion of affectation in another direction. Some who have urged a return to the peculiar manner of the early artists, seem, like the *pseudo* classics, to argue only on the value of antiquity, and on the fact that a certain class of art was so practised in a particular century; and they would have the rude execution of primitive times in painting and sculpture imitated, as if the repetition of mere technical defects were points of valuable design, or showed real feeling. Some also have declared, in the same spirit, that no architecture is proper or admissible for church building but the Gothic, and that of a particular age and style. Others again, adopting a theory of symbols, assert that the presence or absence of *spirituality* is shown as the shape of a window or the curve of an arch approximates to, or departs from, the favourite standard,—whether "Early English," or "the Pointed," or "the Decorated," or any other style, as the case may be. This seems to be mistaking what it must be admitted is a matter of *fancy* for one of *principle*; while the fact appears to be entirely overlooked that Christianity—and it may be hoped its *spirituality*—had existed some twelve centuries before what is called Gothic architecture was known.* In this desire to recur to ancient forms, the Commandments and the Lord's Prayer, in the vulgar tongue of our own day, are often exhibited in our churches not only illuminated out of all recognition, but are written in the obsolete, and, to the greater number of people, illegible character of four or five centuries ago. There is a vital mistake in this, *in principle*, to say nothing of its ill effect on art, which cannot require for its perfection that any means or accessories it employs should be unintelligible. It is not always remembered that, in an age when the religious services were sung or said in a dead language, and the people kept, perhaps intentionally, in a state of extreme ignorance, it would matter but little in what way such inscriptions were set forth, serving as they did chiefly for ornament. But even then they were in the character of the time. In these days, however, when even the humblest classes are being taught to read, it must at least be supposed that texts and inscriptions are intended for edification. On the extreme absurdity of inscribing in a *dead language*—the Latin, for instance—passages and texts from the Sacred Writings, which, by the way, were not written in that language (so that there is not even the excuse of quoting the original), and then—anomaly on anomaly—exhibiting these in *obsolete early English characters*, it is scarcely necessary to enlarge."

It was rather a sad meeting, that at Salisbury: *cholera* was in the town; and the course taken by some of the authorities did not tend to raise the spirits of the visitors; but it had some good results, and this volume is one of them.

* Something of this may possibly have arisen from the undue importance given to the ingenious fancies indulged in by Durandus (*Rationale Divin. Offic.*) and other writers of the class, respecting whom Mr. Bloxam, in his valuable little Manual, quotes the following just remark; "That the ecclesiastical writers of the thirteenth century, who wrote on the rules and ceremonies of the Church, only busied themselves in seeking and *inventing mystical reasons*, which they made the subject of their works."

The Industrial Arts of the Nineteenth Century A Series of Illustrations of the Choices Specimens produced by every Nation at the Great Exhibition of Works of Industry, 1851 By M. DIGBY WYATT, Architect. London Day and Son. Parts III. IV. and V.

THE progress of this work fully justifies our good opinion expressed on the appearance of the first Part. It will form, when completed, a magnificent record of the wonderful assemblage of objects gathered together in Hyde Park. We have, in the parts now before us, amongst the works of higher art, Gibson's very fine statue of "The Hunter," to which, undoubtedly, a council medal would have been awarded, if the sculptor had not been on the jury; and Geerts' "Massacre of the Innocents," conventional, yet full of feeling. Then there are Vases, by Minton; objects in glass by various manufacturers; the Coalbrookdale Fountain; the Sévres Vase; Window from Tunis (deserving the particular study of the ornamentist), and Bronzes, by Vittoz; the last-named plate not so successful as some others. In addition to these are examples of Turkish embroidery, Russian embroidery, and Indian elephant trappings.

Mr. Wyatt's accompanying descriptions are tasteful and intelligent. We take the following from his notice of Messrs. Geerts, the carvers, of Antwerp.

"In their most important undertaking, the execution of the new stalls of the Cathedral of Antwerp, the Messrs. Geerts appear to have selected for their model the beautiful carvings of the stalls in the church of St. Gertrude, at Louvain. Imitating these fine productions of the middle of the seventeenth century, more particularly in the small detached groups which surmount various portions of the design, they have succeeded in imparting to their elaborate work a freedom and beauty entirely their own. While the architectural details of the canopies are in a pure Gothic style, the multitude of subjects with which the stalls are enriched are devoid of any affectation of antiquated drawings.*

Surrounding themselves in their studio with casts from the works of the great masters we have mentioned, together with beautiful models of the architecture of the middle ages, the Messrs. Geerts have formed a large *atelier*, from which productions of extreme beauty are constantly proceeding. Among the important works upon which they are now engaged may be mentioned a series of 260 statues in stone, to be placed in the niches of the Hôtel de Ville, at Louvain, and twenty-nine panels, to be cast in bronze, for the new church of St. Joseph, at

* The stalls referred to, both of Louvain and Antwerp, as well as many of the elaborate works of the old Flemish carvers, are delineated with great pictorial effect in Mr. Haghe's "Sketches in Belgium."

Brussels. The latter are in the style of Lorenzo Ghiberti, and are expected to rival the works of that artist in the baptistery at Florence."

One or two of the plates are a little sickly in tone, as, for example, Minton's vases, and the specimens of glass, but for the most part they are beautiful specimens of lithography.

Notes on the Distribution of Gold throughout the World, including Australia, California, and Russia. With Four Maps. London: James Wyld.

The spirited and enterprising geographer to the Queen is ever ready to aid in enlightening the public on any popular subject of interest throughout the world. And as the Age of Gold appears to be now setting in, he presents us, *à propos*, with a half-crown's worth of maps and notes of all the known or celebrated gold regions throughout the world. The maps consist of one of the World, showing the gold districts; one of the Australian gold districts; one of the gold district from Bathurst to Sydney; and one of the Californian gold districts. The notes comprise a sort of little history of gold hunting, and the whole is appropriately dedicated to Sir Roderick Murchison, the celebrated geologist, who predicted the discovery of our own gold mines in Australia. Mr. Wyld by no means encourages a "run upon gold." His discreet opinion is, that gold digging, however large in its nominal returns, is not, as a pursuit, more productive of net profit than others. Only it does open up a new fountain of wealth more glitteringly attractive to some minds and habits than others, and especially to a restless order of men, many of whom it is better to have engaged in such a branch of industry, however irregular or exciting, than in previous pursuits.

Reports to the Health Committee of the Borough of Liverpool. By the Borough Engineer, Inspector of Nuisances, and Medical Officer of Health. Liverpool, 1851.

From the first of these reports it appears that since June, 1847, no less than 17 miles of sewers have been constructed,—a length equal to about one-tenth part of the total length of existing roads in the borough. The Health Committee have generally selected for execution such works as in the opinion of the medical officer of health would most effectually contribute to remove the causes of disease, and we are pleased, though not in the least surprised, to find that the results have abundantly justified this course of procedure. The general scheme of sewerage and drainage set forth by Mr. Newlands, the borough engineer, and approved of in 1848, is thus in a fair way to final accomplishment. His present report contains plans showing the details of the Liverpool mode of house drainage, and also of course descriptive matter explanative of these plans. It likewise contains information on the paving of the streets, worthy of perusal. The sanitary and other statistics in the two latter reports are instructive and valuable.

Society of Antiquaries of Scotland.—At the anniversary meeting of this society, held on Friday week at Edinburgh, a report submitted to the meeting, conveyed the intelligence that negotiations long pending with the Treasury had been brought to a satisfactory conclusion; and that by a deed drawn up and signed, the society have made over to the Crown, as national property, the whole collections of antiquities formed by them during the last seventy years, to form the nucleus of a National Archæological Museum for Scotland. The Treasury have, on their part, vested the curatorship of the collection permanently in the hands of the society's office-bearers, and become bound, so soon as the new gallery on the Mound is finished, to fit up the entire suite of rooms occupying the north and west sides of the Royal Institution buildings on the upper floor, for the accommodation of the society's collections and meetings. At this meeting several honorary members were elected, among whom were the city architect, Mr. D. Cousins, and Sir John Watson Gordon, Kt., P.R.A.

Miscellanea.

Railway Jottings.—The total amount received for traffic on the London and North-Western Railway, for the week ending Nov. 30, was 40,021*l.* (corresponding week in 1850, 38,508*l.*) Midland and Bristol and Birmingham, for the week ending Nov. 23, 21,407*l.* (corresponding week in 1850, 20,529*l.*) North Staffordshire (Railway and Canal), for the week ending Nov. 23, 4,614*l.* (corresponding week in 1850, 4,351*l.*, exclusive of receipts available under agreement with London and North-Western). Great Western, week ending Nov. 23, 14,353*l.* (corresponding week in 1850, 13,138*l.*) Great Northern, week ending Nov. 23, 10,360*l.* (corresponding week, 1850, 6,140*l.*)——The great railway bridge and viaduct at Chepstow is rapidly progressing. The structure is so far advanced, that an idea of the bridge may be formed. Numerous visitors have already been to see it, and its fame is likely to vie with that of the Britannia or Menai-bridge. The whole will be made of wrought-iron, and will combine the principles of the suspension with those of the tubular bridges. Including the viaduct, the bridge is 623 feet in length; the span or suspension part being 290 feet. There are two separate roadways, each being perfectly independent of the other, and their height is 70 feet over the river Wye at high-water mark, so that vessels can pass under. On the Chepstow side, the roadways rest on six upright iron cylinders, filled with concrete, and driven firmly in a foundation of rock. The roadways on this side are continued in the form of a viaduct for about 300 feet more, resting on these upright cylinders, filled with concrete, and firmly imbedded. On the east side, the roadways rest upon solid work. The masonry is in a forward state.

Water Supply and Drainage of Southampton.—The supply of water at the present moment is from the Common Well 121,250 gallons per twenty-four hours; from Northam, 31,500; Sugar House, 37,632; and from the Springs 35,309; making a total of 225,689 gallons per twenty-four hours. Mr. Ranger in his report estimates the amount required per day at 700,000 gallons.——A correspondent, with reference to the drainage, draws our attention to the fact that the corporation are about to borrow another 20,000*l.* to throw into what he calls "their big ditch which they call sometimes a *drain*, sometimes a sewer, but which, in point of fact, is neither drain nor sewer, but a continuous chain of cesspools."

Electro-telegraphic Progress.—The seal of the Lancashire and Yorkshire Railway Company has been affixed to an agreement with the British Telegraph Company, enabling them to use the whole of the lines of the Lancashire and Yorkshire Company for telegraph purposes. The British Company are now, it is said, about earnestly to commence operations, having issued specifications for poles and fixing to a considerable extent.——If all be true that is said of the magnetic telegraph, our "electro-telegraphic progress" must shortly be changed into "magneto-telegraphic progress," and the galvanic battery be altogether dispensed with. We seem to be approximating still nearer to the ancient idea of "the magnetic telegraph" with its magnets and its sympathetic alphabets, and may ultimately find that even the electro-magnetic telegraph is but a sorry invention compared with "what once hath been." Contracts, it appears, have been entered into by the Magnetic Telegraph Company for the establishment of Mr. Henley's improvements on a great many miles of railway.——If we have doubts about the propriety of ranking the note of progress just made under the head of electro-telegraphic, what shall we say to the following? "A gentleman in Newport, Kentucky, is perfecting an application of electricity for propelling a box containing letters over wires from place to place, on the telegraphic principle. It is said that the experiment over wires of 600 yards in length has worked successfully." We long ago, in a jocular mood, suggested the supersedement of the electric telegraph by the transmission of written paper pellets or letters through an exhausted line of air-tight tubes, a notion afterwards gravely advocated by some of our contemporaries; but the Kentuckian project is certainly an improvement on that. The old woman who expected her umbrella to be forwarded by electric telegraph had evidently an estimation of its capabilities as just as it was profound. She was probably some "wise woman" incog.; and had her hint been acted on, the laurel might have been plucked by anticipation from the Kentuckian temples, ere it, Erinically speaking, had had time either to plant itself or grow upon them.——It is said, that so long since as 1666, one Gilbert published a book, in which he predicted that the day was not far distant when men would be able to communicate from one end of the world to the other by means of electricity.

Miscellaneous Inventions in Wood and Brick Construction, &c.—Mr. George Tate, of Bawtry Hall, Yorkshire, has recently taken out a patent for constructing houses, &c. by fitting together staves, or stave-like and other pieces of timber, or other suitable material, secured together by hoops or other binders or fasteners, built of any suitable size, and fixed, either vertically or horizontally, at any height, upon piles or sleepers. Such houses, or parts, may be formed one within the other, to leave space for the circulation of air, &c. The floors, roof, partitions, &c., are also formed by wedging up stave-like pieces in concentric rings, with an external hoop, and the interstices filled up with glue or other viscous matter, mixed with earthy or mineral substances. [This invention reminds us strongly of one first announced in The Builder some time ago, and which was applicable to bridge building, ships' masts, &c.] The second part refers to machinery for mixing ashes, dust, &c., with house soil for manure, and forcing it out similar to a pug-mill for preparing brick earth. Another to the formation of beams or girders: hay, straw, brushwood, &c., are mixed with animal or mineral viscous matter, and then compressed in moulds for ultimate use, as required. For floating harbours, breakwaters, &c., this material is recommended for its floating power. The specification claims also for constructing rigid suspension bridges, by attaching to the chains cast-iron abutments, and holding down chains of galvanised wire, coated with gutta percha(?), and each link protected by a metal sheath. Another part is for perforating bricks and tiles, and making channels, flues, and pipes in walls, for circulating hot or cold air, and the manufacture of bricks and tiles, by forcing them into moulds, *by the employment of centrifugal force*; also for making ornamental bricks and tiles, by facing those made of common brick-earth with a finer kind of clay, or porcelain, which is to be painted or printed with any architectural device or pattern.

Drainage of Lee.—At a meeting of the Commissioners of Sewers on the 3rd, Captain Dawson, with reference to a letter on this subject in our columns, to which we drew attention last week, made a statement showing the necessity for immediate drainage in that neighbourhood, and called the surveyor, Mr. Cresy, to give evidence on the subject, and elicited from that officer explicit replies with reference to the neighbourhood, its drainage, and the situation of Captain Dawson's residence, which he pointed out on the plan to the Court. The drainage of the place, he stated, is, most defective, and the proposed alteration in it would not in any way benefit the captain's property, as it was situate opposite to Lee, the water shed being the other way; nor was it at all connected with Dacre-street, although if the works at Dacre-street, &c., were carried out, he (the captain) would have to pay his share in common with the other inhabitants of the district.

Builders' Benevolent Institution.—Our advertisement columns have apprised those interested in this thriving institution, that the directors have resolved on giving another ball, on 19th February next, in Willis's-rooms. They are now recruiting for stewards, and would be glad to have early additions to the list.

Public Paths—Regent's Park.—I have just received your publication for this week, in which I find some remarks upon the stopping of public paths, and encroachments on public property, and I am of opinion that your correspondent has been very moderate in his complaints. When a boy, I was in the constant habit of walking round the *outside* of the fences of the Regent's Park, when the hares had the privilege of running through the plantations inside; but from the strenuous exertions of Mr. Hume and others, the gates were opened to the public. Many thanks to them, say we, and they would have done well to have kept their eyes on so great an object, with a view to keep it from being again taken from us. I could name many beautiful crops that have been gathered within the inclosures, and here beg to enumerate a few of them. About the year 1824, a small portion was allotted to the Zoological Society for exhibiting their collections, &c.; *now* I should say about twelve times the extent: the same with the Botanical Society. In or about 1832, a crop off for a house for Mr. Holford; since which time, and I believe very recently, the iron fences have taken a flight to a very considerable distance further from this, and a house not far from it, which I believe is called Hertford House, taking in ground, at a rough calculation, I should think, of ten or twelve acres. Surely there must be something wrong about this, and I am induced to call attention to it, fearing that some foggy night these fences may take another leap, and we lose for ever the opportunity of making a foot entrance into this part of the park, which is so much needed.—A Subscriber.

Iron Pavement.—We some short time since noticed an experiment which had just been made at Glasgow under a new patent by Mr. Allan, of Spring Bank Iron Works. The pavement laid down has now had a trial of several weeks' duration, and the result is reported by the *North British Daily Mail* to be favourable to its adoption in the place of granite pavement, on the score of first cost at least, and of adaptation to its purposes, if not also of durability, which has not yet been sufficiently tested. It is grooved in zigzags, and thus prevents the horses' feet from slipping. As it must wear much faster, however, than those slipping traps in sloppy weather or in frost—the iron shot-hole covers to coal-cellars on our metropolitan pavements,—and as it must inevitably require replacement so soon as the grooves are nearly obliterated, which they so often are in the instance just adduced, the question of relative cost remains to be settled by the horses' shoe irons. Its absolute prime cost is actually less than that of granite, according to the *Mail*, which states that, while the cost of the latter in Glasgow is from 8s. to 9s., and in London from 12s. 6d. to 14s. 6d. a square yard, that of the former in Glasgow is only 7s. 6d. to 8s. 6d., according to thickness. There was some fear of the influence of frost in rendering the iron pavement too brittle for heavy traffic; but it has already withstood the force of some pretty strong frost, and every day hundreds of tons of coal, iron, &c., pass over it, besides omnibuses, carriages, carts, &c., and as yet not the least appearance of yielding or failing is said to be visible. The plates are rebatted on the edges, and mutually support each other, and the joints are so close that no oozing of dust or mud appears. The substratum is of lime and sand. The noise is said to be much less than on granite, and the footing more secure.

Landing Place for Margate. — In consequence of the damage sustained by the present landing-place, from the gale of the 4th of November, the directors of the pier and harbour have decided on calling for plans for a new landing-place: it is proposed that the length should be about 1,400 feet, and the width about 25 feet, and that the cost of the works shall not exceed 12,000*l*. The directors also ask for plans on a more extended scale, by which greater protection shall be afforded to shipping. The cost of this work is not to exceed 15,000*l*. A correspondent expresses a doubt as to the honest intentions of the directors, as they have already a plan before them.

Street Railways for Horse-trains.—A new project has been started whereby it is proposed not only to centralise the metropolitan railway traffic, but also that of the omnibuses, in such a way as to virtually clear the streets from much confused and conflicting traffic, while, at the same time, affording increased accommodation to the public. This project contemplates simply the laying down of lines of rail flush with the streets, to radiate from the centre of the metropolis through all the principal lines of thoroughfare, and of course to all the railway stations, the gauge being the ordinary one suitable to railway carriages, by a modification in the construction of which it is proposed to adapt them also for street traffic when detached one by one, and driven off by horses from each station towards the centre, stations being set down at least every quarter of a mile along the course. As represented by the engineer, Mr. Thomas Wright, of George-yard, Lombard-street, a railway centralisation would thus be obtained at the smallest possible cost, and with the utmost possible safety, and without the slightest destruction of property, or alteration of streets, except in the laying down of two lines of rails near the kerb-stones, on each side, the rails to be, so far, common property, or used or crossed by all sorts of vehicles, at all times, except while the trains are passing. In support of the practicability of this scheme, the engineer points attention to the fact that the system projected already exists in several American cities, such as New York, Philadelphia, and Baltimore, where it is found to be not only practicable, but immensely useful.

The Origin of the International Exhibition.—Mr. S. C. Hall, the editor of the *Art-Journal*, has thought it due to himself, without disparagement to any one else, to give, in his excellent journal, an account of his endeavours, since 1844, to "originate" a movement in favour of "An Exposition of British Industrial Art," which endeavours he regards as the primitive basis on which Prince Albert's grand idea of *An International* Exhibition may be said to have stood. "It will be observed," says Mr. Hall, "that I never at any time contemplated an International Exhibition: this plan originated in the large mind and enlightened policy of his Royal Highness Prince Albert; but I humbly think it will be seen that, as between some who have been named and me, there is no question as to who was the "originator" of a Great Exhibition of Industrial Art in the British metropolis. There can be little doubt, however, that the idea must have occurred to many others: the example of France was sure, sooner or later, to be imitated in this country; and year after year brought us nearer to a position in which competition, being no longer dangerous, was not to be avoided."

Alpine Blasting.—Galignani reports a gigantic engineering operation near Welschmetz, in the Italian Tyrol. Stone being required for the construction of viaducts and bridges for a railway, it was resolved to use a rock 360 feet high and 85 wide, which rose like a wall. In two places only it was connected with the chain of Alps. First of all, it was entirely separated from the mountain, an operation which occupied 800 workmen for some time: seven or eight large openings were then effected at the base, so that the mass was supported on columns, and then trains of gunpowder were placed in each opening. Fire was set to the train, and in 11 minutes the mass came down with a frightful explosion. The fall shook the earth for a distance of nearly 2 leagues, and the pieces of rock spread over nearly 10 acres.

New Westminster-bridge. — Westminster-bridge, you say, is going to be rebuilt, and the Commissioners seem to think the bed of the river will play them tricks again. Why don't they be independent, and span the river with a single arch? I do not see any difficulty after the Thames Tunnel and the Tubular-bridge. At any rate throw out the suggestion, and some adventurous engineer will be found to make such a working plan before Christmas arrives.—Advance.

Answer to G. E. G.'s Question.—The following is the solution of the algebraical question of G. E. G.:—$6 \times (x^6 + 4x^5 - 3x^4 - 16x^3 + 11x^2 + 12x - 9)$ divided by $6x^5 + 20x^4 - 12x^3 - 48x^2 + 22x + 12$, gives a remainder $4x^5 - 6x^4 - 48x^3 + 44x^2 + 60x - 54$. Call these expressions P, Q, and R respectively. Then 2Q divided by 3R, gives remainder $58x^4 + 120x^3 - 228x^2 - 136x + 186$. Call this S. Then $29 \times 3R$, divided by S, gives remainder, $440x^4 + 672x^3 - 1968x^2 + 160x + 696$. Call this V. Then $55 \times \frac{1}{2}S$, divided by $29 \times \frac{1}{4}V$, gives remainder $864x^3 + 864x^2 - 864 \times 5x + 864 \times 3$, which being divided by 864, gives $x^2 + x^2 - 5x + 3$ as the "greatest common measure" of the quantities P and Q. The letters P, Q, &c., have only been used in the above in order to save space, and would not be used in working out the question, which is done by the ordinary rule for finding the greatest common measure, which has been followed in the above, the multipliers being introduced in order to make the work easier, and to save the introduction of fractions.—E. W.

Survey of Christchurch, Blackfriars.—At a meeting of the Board of Guardians of St. Saviour's Union, specially convened, held on the 10th, to receive tenders for the survey of the above parish, Mr. Paine's tender was accepted. The parish contains 1,500 houses, and the survey is to be completed within two months.

Tenders for Ironwork.—Tenders were sent the other day for fifty lamp-posts required by the trustees for improving the hamlet of Mile End. The price named by one leading firm was 14*l*. 12s. 6d. per ton, including the wrought-iron work, equal to 2*l*. 11s. 2d. per post. The tender accepted was 6*l*. 12s. 6d., equal to 1*l*. 3s. 2d. per post. There were seven parties: the other figures I do not know. I have had prices from three firms in different parts of the country: one quoted 2*l*. 15s., and another 2*l*. 18s. 6d. per post, weighing 3½ cwt.; the first equal to 15*l*. 14s. per ton, and the other 16*l*. 14s. 3d. per ton. A strange system this.—A. B.

Architectural Publication Society's Cyclopædia.—The importance of rendering "The Cyclopedia of Architecture," now in course of preparation by this Society, as perfect as possible, must be sufficiently evident to make apology unnecessary for requesting a short space in the columns of The Builder for the following suggestion: viz., to affix the correct pronunciation to every term in italics, in the same way as Walker has done in his edition of Johnson's Dictionary, with references, giving the sound of the vowels. It appears to the writer that the value of the work would be by this means materially increased to the young student.—A Subscriber.

Royal Academy Architectural Medals.—The Royal Academy gold medal for the best design for a marine palace, was awarded on Thursday evening last to Mr. J. Robinson. For drawings of the tower of Bow Church, the first silver medal was given to Mr. J. T. Christopher; the second silver medal to Mr. Rowley; and the third silver medal to Mr. H. Snell. We congratulate these three gentlemen upon not having broken their necks. It seemed almost too bad to make them risk their lives in measuring the grasshopper on the lofty steeple of Bow.

The Koh-i-noor. — Messrs. Hart and Sons are selling a capital model of this great diamond, fitted up exactly like the original, which, whether impostor or not, certainly had more eyes upon it than any other single object in the Great Exhibition. The model is a nice present *in memoriam*.

Belfast Working Class Association.—A lecture on "The Connection between Religion and Industry," in aid of the library fund of the Working Class Association of Belfast, was recently delivered in the Music Hall by the Rev. Dr. Henry, President of the Queen's College, Belfast. The Bishop of Down took the chair, and spoke on the importance and utility of associations such as the one whose interests they had met to promote.

London Mechanics' Institution.—We are glad to see this institution, the first of its kind, founded long ago by Dr. Birkbeck, still keeping its ground. On the 10th inst. a *soirée* and *conversazione* took place in its rooms, with varied and really exceedingly entertaining adjuncts, comprising elocution, oratory, and music. Paintings, sculpture, models, and manufactures filled the rooms,—in fact, a miniature industrial exhibition, mostly, too, the fruits of the industry and art of members of the Institution itself, and for which prizes were awarded by the Royal Commissioners.

A new baptismal Font is being fixed in St. James's Church, Clerkenwell. It is of Portland stone, circular in form, and stands at the west end of the nave upon an octagonal step, 4 feet by 5 inches in thickness. The bowl is cylindrical, and is ornamented with twelve architectural olive leaves, with palm leaves in the interstices, supported on a plain cylindrical shaft, with a boldly-moulded spreading base. The dimensions are—height of font, 3 feet 2 inches; diameter of bowl, 2 feet 1 inch; depth of bowl, 10 inches: it measures across the top 2 feet 8 inches. It is in the Roman style (the same as the church), but the proportions partake of those of the mediæval font, which are suggested as an improvement upon the slender *baluster* font in London churches. The font is lined with lead, and has a water drain. It was designed by its promoter, Mr. W. P. Griffith, architect (who has raised the money by subscriptions of 2s. 6d.), and was executed by Messrs. Mallcott, masons, for 11*l.* 17s. 6d.

Rapid Growth of Adelaide.—The following is an extract from a letter from an architect settled in Adelaide, dated May the 1st:—"Building has rapidly progressed since we have been here. I have already seen the following buildings rise from their very foundations, and some nearly completed in the fourteen months of my residence in this colony: Episcopal residence for the Lord Bishop of Adelaide, Collegiate Institution, New Bank of Australia, Government offices, Free Church of Scotland (this last will be the *first* church with a spire in Adelaide), Wesleyan Chapel, Independent ditto, and many good private dwellings, but the whole equal, in point of masonry, brickwork, &c., to any in England of like extent, while the designs of the various erections named will do credit to the architects of them."

TO CORRESPONDENTS.

"*Portland Stone.*"—A reader asks for information as to the probable effect of salt water on Portland stone.

"A loser of many contracts," "A Builder's Apprentice" (the late Mr. Inwood), "B. G.," "B. H.," "W. G.," "C. F.," "J. S.," "T. L.," "E. B.," "J. B.," "L. V.," "R. L.," "S. C. F." (a private question), "R. M. P.," "R. I. P." (we shall be glad to see Lithograph), "W. C.," "Quondam," "J. E., jun.," "B. & C.," "W. W.," "G. T." (write to the secretary, Great George-street, Westminster), "R. B.," "Zeta," "J. A.," "E. R.," "R. S. P.," "J. J. M.," "J. H. L.," "A Working Man," "A. A.," "R. J. P.," "E. J. E.," "R. S. B.," "H. C.," "W. H. C.," "R. K. D.," "F. R. E.," "T. & R.," "J. B. L.," "L. C. W.," "J. H. C.," "J. C. M.," "J. G." (Dr. Clarke is doubtless correct).

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DREDGE for SALE.—The Belfast Harbour Commissioners, having received a report from their engineer, to the effect that the Harbour Improvements are now almost completed, and that little or no deposit takes place in their channel, so as to require removal by dredging, OFFER for SALE one of their powerful STEAM DREDGES, with fifteen MUD BARGES. The machinery is in perfect working order, having been kept in excellent repair, and originally made at the works of Messrs. Coates and Young, of this town.—Further particulars may be learned by application to Mr. SMITH, Resident Engineer, at his office here. EDMUND GETTY,
Secretary Harbour Commissioners.
Harbour Office, 11th Nov. 1851.

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For full particulars of the booking-through system between England and Ireland, see Bradshaw's Guide, page 122; Walsh's Irish Guide, page 20; Fisher's Irish Guide, page 2.

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